JANUARY, 1875.

OFFICE, No. 9 NORTH STREET,

TO FARMERS AND GARDENERS.

$1,000 REWARD TO ANY ONE that can find by analysis or otherwise any adulteration whatever in my manufacture of Bone.

No heavy Bones taken out for Bone Black, or other purposes.

The First Manufacturer in America that sold GROUND BONES by WEIGHT.

PURE BONE DUST AND

BONE MEAL

from Slaughter-house Bones, twenty-five years the standard for purity and excellence.

CHEMICAL LABORATORY OF P. B. WILSON, No. 32 SECOND STREET, BALTIMORE, July 30, 1873.

Joshua Horner, Jr.—Dear Sir: The following is the result of analysis of a sample of your Bone Dust drawn by myself from a lot of seven tons lying in your warehouse:

Moisture, (deter. at 212° F.)	3.74 per cent.
Organic Matter	40.12 per cent.
Containing—Nitrogen, 4.08; Ammonia 4.95	
Inorganic Matter	56.14 per cent.
Containing Phosphoric Acid	24.52 per cent.
Containing Bone Phosphate of Lime	53.52 per cent.
Insoluble Matter	2.51 per cent.

This is the BEST SAMPLE OF BONE DUST I CAN FIND IN THE MARKET, and call your especial attention to the LARGE PERCENTAGES OF VALUABLE MATERIAL for the improvement of the soil, and to the SMALL PERCENTAGES of moisture and insoluble matter

Respectfully, etc. P. B. WILSON, *Analytical and Consulting Chemist.*

PREPARED FOR DRILLING, AND PACKED IN BAGS, 167 LBS. EACH, AT $45 PER TON. DISSOLVED OR VITRIOLIZED BONE, $48 PER TON. BONE ASH, GROUND AND DISSOLVED, $42 AND $48 PER TON. FARMERS' SUPPLIES.

JOSHUA HORNER, JR.

54 S. Gay Street, 178 Forrest Street and Corner Chew and Stirling Streets, BALTIMORE, MD.

We will purchase and have carefully shipped, by whatever mode of transportation may be designated:

FERTILIZERS of every description sold in this market—and there is, probably, no other city in the Union which offers better facilities for this purpose. We will buy, and deliver from the Peruvian Agent's Warehouses, whenever the order is sufficiently large to warrant it,

PERUVIAN GUANO.

Also the various **PHOSPHATIC GUANOS** imported into this port; **BONE DUST** from the best manufactures of this vicinity or the cheaper kinds from a distance, as may be ordered by the purchaser;

Land Plaster, Oil Vitriol, and all Chemicals Required

In the manufacture of HOME MANURES, or SUPERPHOSPHATES from the most reliable factories.

FRUIT and ORNAMENTAL TREES, SHRUBBERY, Field, Garden and Flower SEEDS.

All kinds of AGRICULTURAL IMPLEMENTS and MACHINERY at manufacturers' prices. Likewise,

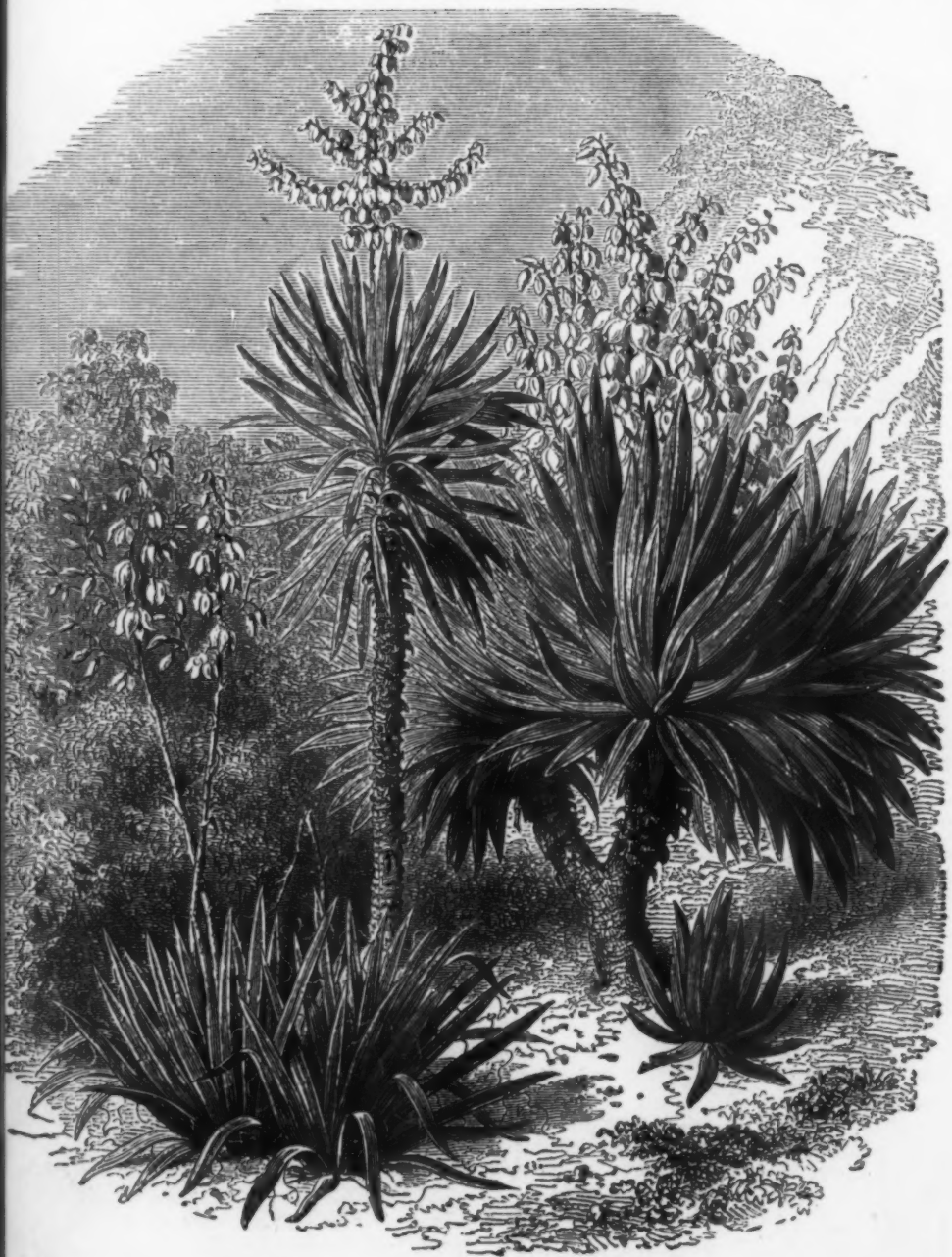
Cattle, Horses, Sheep, Pigs, Poultry, &c.

Of the improved breeds. In this vicinity, in some particular kinds of stock, a better selection can be made than elsewhere, and special attention will be given to buying and forwarding such animals as may be ordered.

TERMS CASH (or its equivalent.)

Sam'l Sands & Son,

No. 9 North St., near Baltimore St., Baltimore, Md.



A GROUP OF YUCCAS IN BLOSSOM.

[*See page* 30.]

EBL 23 / p42

THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. IV.—No. 1.] JANUARY, 1875. [NEW SERIES.

The New Year and the New Volume.

As sanctioned by custom and the appropriateness of the season, we devote a few words of greeting to our readers, to each of whom we wish *A Happy New Year!* May all be blessed with prospering seasons, abundant harvests, remunerating returns for toil and time expended, and the favor of that Power who sends "the early and the latter rain."

At this time it is also usual to say something of ourself for the year just entering. Yet all that we can say is to repeat what we have so lately written—that the main features of the *Farmer* in the future will be unchanged from what they have been in the past; but that we hope from a larger experience, a wider appreciation of the needs of the situation, and the ever-increasing aid of fellow-workers in the good cause, to make our journal more and more worthy of its friends, and useful in the field of agricultural improvement. Our constant aim in its conduct is not to make a paper of ephemeral interest, but of permanent value; to give, indeed, what will be instructive and entertaining for present reading, but with it to combine that solid material which will be of lasting service and worthy of preservation for repeated reference. We design, too, to give not only modes of practice, but to present the principles which underlie them. This we do sometimes at the risk of seeming a little "heavy,"—but the readers of the *American Farmer* have ever been of that class who appreciate solid fare,—and far be it from us now to lower in the slightest degree the high standard of its contents. We believe we could make a more popular paper and largely widen our circle of readers by catering to those tastes which demand ever recurring dishes of the sensational and the frivolous, but this has never been the course of the *Old Pioneer*.

Of the future of agriculture in this country we are hopeful. From the dullness of general business in times of financial panics and distress, attention is ever diverted towards *land*, which has been said is after all the basis of all security. In many districts this is already felt, and with the cessation of "flush times" and speculative profits comes a desire to many to seek the slow but surer rewards of husbandry.

The changes in the conditions of farming abroad also seem to operate to our advantage. Higher wages for labor in Europe means higher prices for our crops here, and the disproportion heretofore existing in the cost of their production will vanish in the early future.

At home, the settlement of the financial problem of the currency, and collateral questions, which, on every side it is now conceded, must have a speedy solution, will tend to the well-doing of agriculture. The general recognition of the absolute necessity of improving the material condition of the Southern States as an element towards the healthful ease of the whole body politic; the demand abroad for our products not procurable elsewhere; the establishment of economical and good government in quarters where the opposite has prevailed; restoration of good feeling and confidence—all these things point to better days coming to our farmers, and to participate in and enjoy them is what we hope for all the friends of the old *Farmer*.

To all the friends of the *Farmer* who have so often and so kindly favored it in many ways, we commend its objects and hopes given above, confident from their public spirit that we shall have the benefit of their intelligent aid for the advantage of agriculture in the future as experienced in the past, and that with such help, we shall be able to perform our part in the year now begun.

S1
A33
Farm. Bk. Coll

Cultivation and Management of Tobacco, from the Plant-Bed to the Warehouse.

The following paper was prepared and presented by Major R. S. Ragland, of Halifax Co., Va., for the prize offered by the Virginia State Agricultural Society:

To have early, strong, well-rooted plants, select a spot with Southern or Southeastern exposure—in the woods is best—running from a hill-side down and over a bottom. Burn with either brush or wood, or both, some time between the 1st of November and the 15th of February, the sooner the better; and chop over and make fine the bed ready for sowing. Sow seed any time after the 15th of December, a heaping tablespoonful to every 100 square yards, and whip the seed into the soil with fine brush, and then cover the bed thickly with fine brush. Re-sow with half the quantity of seed used at first sowing, about the 15th of February, to insure a supply of plants against frosts and insects. To have forward plants use some good concentrated commercial fertilizer at the rate of 1,000 pounds to the acre, say 100 pounds to about 500 square yards,—mixing the seed with the fertilizer to insure regularity. Some use stable manure or compost from the hen house, but these often contain grass or field seeds that foul the bed and retard the growth of the plants. Don't be in a hurry to remove the brush in spring, as it is a protection from late frosts, and keeps the ground moist, and plants growing in dry weather. If the plants are slow, push them along with a top-dressing of the same fertilizer, applied when the plants are not wet with rain or dew. If the plant bug attack them, apply plaster, in which rags saturated in kerosene oil have been stirred and left in the plaster over night, and cover up the plants, or nearly so, with this saturated plaster, and no bug or fly will remain to injure them. It is a matter of so much importance to have a supply of good plants in time, that the writer will recapitulate what has never failed under his management to secure a full supply both early and abundant. Select a good site *in the woods, burn early, cover thickly with brush, and use liberally plaster saturated with kerosene oil to drive off the bugs.*

Preparation of Land.—All old lands intended for tobacco should be fallowed in the Fall or Winter, edged up to freeze and pulverize. Apply farm manure, by scattering, to the surface whenever the land is dry enough to drive upon it without poaching. Turn under the manure in early Spring. Wheat straw is a good manure for tobacco if turned under in the Fall early enough to rot. No crop pays better under *heavy manuring* than tobacco. After the farm manures have been exhausted it will pay on ordinary lands to drill from 150 to 200 pounds of some good reliable fertilizer suitable for this crop, to push off the plants in time, and give size and substance to the leaf. From 300 to 400 pounds will be required where no farm manures are used. Wheat straw, if partially rotten, may be applied early in Spring, and with great advantage on gray lands intended for producing yellow tobacco. The action of wheat straw is to cause all tobacco grown by its aid to ripen of a *yellow color.* Tobacco stalks and ashes are better suited for shipping tobacco. Fresh rough lands must be reduced to fine tilth by plow and drag before being hilled. Fresh gray lands are best suited to the production of yellow tobacco, and, unless very rich, a good tobacco fertilizer on such pays better than for any other crop. Rich lots should be hilled three feet three inches apart; ordinary lands three feet. Remember to prepare thoroughly all lands for tobacco and plants, as soon after the 10th of May as hills and plants are ready.

Cultivation.—This should begin *early* and be constant, to loosen the soil and to kill grass and weeds. The size of the tobacco will indicate when to stop ploughing, but the hoe should be used while there are weeds and grass to injure the crop. No specific plan of cultivation is given or needed; but the crop should be kept clean and the land stirred as often as the plants require, to *promote* growth and early maturity.

Topping—Should commence as the tobacco is large enough, and before it buttons. The number of leaves to be left on the stalk depends upon the character of the soil, the amount of fertilizers used, and the character of the tobacco the crop is best suited for—shipping or wrappers,—and the time the work is done. It is a mistake to top too high. To make good rich shipping or sweet oily fillers, ten leaves are enough for the best soils, and the heaviest manuring. We have been topping too high; and in attempting to make pounds have sacrificed the *quality* of the crop, with but little addition to the aggregate weight of it, if increased at all. The first topping should be rarely above nine leaves, and the second at eight for dark tobacco. For bright wrappers top a leaf or two higher to prevent the tobacco from being too coarse.

Keep off worms and suckers, and prepare everything ready for *cutting, housing, and curing*, when the time comes. Never cut tobacco green unless frost is imminent. The quality and appearance of the growing tobacco when ripe, must decide the planter what to make of it in curing. Coarse heavy tobacco is only fit for shipping, while that of fine texture and that ripens yellow on the hill ought to be cured with flues or coal, for wrappers or smokers. Yellow tobacco sells for so much more than dark that it is important to cure all yellow that will admit of it, and that is suitable therefor. Tobacco that ripens of a piebald color should be cured for mahogany wrappers.

To Cure Mahogany Wrappers.—House the tobacco as soon as cut, and once a day for four or five days build *small* fires in the barn early in the morning, and let them burn down in from two to three hours. These will yellow the tobacco of a moulted yellow, when regular firing should commence. Then commence firing at 100 degrees Fahr., and raise the heat gradually 2½ degrees an hour until it gets to 120 degrees, at which continue for six or eight hours until the leaf is cured. After this increase the heat to 150 or 160 degrees, going up five degrees an hour, and continue at and between these figures until the tobacco is cured. Wood alone may be used for curing this class of tobacco.

Sun Curing—Requires no instructions, except to beware of getting the tobacco wet while in

process of curing. It is preferable to house the tobacco before the stem is cured rather than to run the risk of getting it wet by exposure. Coal fires may be applied to hasten the curing, and with great advantage in warm, damp weather.

Shipping Tobacco—Is easily cured, provided you don't go about it like kiln-drying lumber. It is best to house the tobacco as it is cut, and let it remain without fire three or four days to yellow. Then apply small fires at first, and gradually increase them until the heat is about 120 degrees Fahr. To go beyond this will endanger the scalding of the tobacco. Continue the fires until the leaf, except the stem, is cured; then *stop* the fires and permit the tobacco to *run* as it is called; let the sap descend into and feed the leaf, and it will be richer, heavier and livelier than tobacco cured-up stalk and stem at once.

For Curing Bright Yellow Wrappers—The process is more difficult, and requires some experience to insure success. Many, however, by following the instructions laid down in a pamphlet published by the writer on this subject in 1872, (a copy of which is enclosed for the committee's inspection) have, without any further aid, cured very fine tobacco. This pamphlet has the approval of many of the best curers of yellow tobacco, and is in demand every year for that purpose, having been subjected to the test of experience by many hundreds of planters in Virginia and North Carolina. To give its substance in full in this essay would occupy more space than is allowable, and therefore the writer in taking leave of this part of the subject begs to call the attention of the reader to it as first published, and also to its revised edition contained in the October number of the North Carolina *Tobacco Leaf*.

Tobacco, after it is thoroughly cured, should never be bulked down on the stalk except for a few days to be kept in good order for shipping. It keeps best, whether before or after it is stripped, hanging on sticks in the barn. If likely to mould from continued damp weather it should be dried out with coal or pine wood. But if planters desire to market their tobacco in winter order, then it ought to be packed down as stripped, in bulks well raised from the floor of the barn; and not more than from 800 to 1,000 pounds should be packed in one bulk.

Shipping tobacco should be prized in hogsheads to weigh from 1,500 to 1,800 pounds. It is not often that tobacco can be "struck down" in safe-keeping order until May. When the leaf is pliant, and the stem will crack from half way up the leaf to the head of the bundle, it is then in good safe-keeping order. Tobacco prized in good order has a great advantage over that which is sent forward in condition that will not keep. This is so important that every planter should make a note of it. The classification of tobacco, both in stripping and prizing, is equally important—putting tobacco of like color, quality and length together.

For the coming year, 1875, planters would do well *not to sell too early*. The crop now in the barns is the smallest that has been grown in the State for years. It will all be wanted, and doubtless will command high prices during the next working season. The high prices that will likely prevail through the next season will stimulate planters to raise large crops next year. Those who are fortunate in raising a good, rich, fine article, will find sale for it at remunerating prices for years to come. The markets have been flooded with poor tobacco, much of which often sells below the cost of production.

The secret of success in tobacco planting is to grow only *good* tobacco. This can only be done by heavy manuring, thorough cultivation, and prompt and neat handling. If we plant no more than we can cultivate and manage well, we'll scarcely fail to make an article that will sell at remunerating prices. Then let us plant less, manure heavier, cultivate better, and raise a richer, finer, better article, redeem the character of our Virginia tobacco, and put more money into our pockets from the annual proceeds of this important crop.

Rust in Cotton.

Dr. E. M. Pendleton, of Georgia, from whom we have heretofore had occasion to quote with much confidence, in his forthcoming work, entitled "Text Book of Scientific Agriculture, with practical deductions," gives a very learned chapter of the causes and prevention of Rust in Cotton. He says that "the *blight* which has for a number of years injured so many cotton fields, and is known in familiar parlance as *rust*, is not parasitic in its character, but simply an exhaustion or giving way of the life of the plant, such as would result from taking a spade and cutting off all the lateral roots by which it receives nutrition; or as happens in autumn when the fruit is mature. It occurs at the stage of fruiting, and might be well distinguished from all others as *Fruit Rust* or *Plant Exhaustion*."

He alludes to the numerous theories which have been advanced as to the causes of Rust in Cotton, which he thus sums up: "Although originating from several remote causes, the different kinds of rust have but one proximate cause, viz: deficient nutrition. This may result in several ways: 1. From the abstraction by parasitic growths of the nutritive juices of the plant, as in the case of wheat. 2. From the sudden giving out of one important element in the soil, or in the fertilizer used, especially on a poor soil. 3. From the failure of a supply of nutrition, because of drought. There may exist plenty of soluble matters in the soil, but as they can be taken up only when in solution, the supply fails because the menstruum water, by which it is held in solution, fails. 4. From too much water in the soil from any cause, as above noticed, the roots become unhealthy and incapable of taking up nutrition. 5. From the presence in the soil of a corrosive acid, or poisonous element, which destroys the vitality of the roots. 6. From a bold, impermeable subsoil, causing the water to stand around the roots, and thus obstruct nutrition.

"We have observed blight or premature decay result from all of these causes, especially from the *failure of water* to supply the accustomed juices requisite to sustain the life of the plants. Particularly is this true when plants have been supplied with a full quota of all the elements of

food, *by concentrated fertilizers*, and an abundance of water. The force of absorption under such circumstances tends to enlarge the cells and expand the roots."

"Thus when a cotton plant has been highly fertilized, having an abundant supply of rain water to convey its soluble food to the plants, the ducts and cells are all the time full and distended with the juices taken up by the absorptive power of the roots. Just at this juncture a drought sets in, the supply of water fails, and premature exhaustion is the result."

That the disease is not dependent on fungi or any contagious or epidemic influence, the Dr. shows by the reasonings of the most learned men, and by demonstrations again and again repeated by himself. He says: "At present (September, 1874,) at this experimental station, we have a plot on which one thousand pounds of a high graded ammoniated super-phosphate was put per acre. The fruit has matured rapidly, and is mostly open; the leaves are red and many of them falling off: it is, in common parlance, badly rusted.

"Other plots with only two hundred pounds of fertilizer per acre, has about finished fruiting, and is passing into the sere leaf; while those which have no manure are still green, having fruit, though sparse, in every stage of development, from the young form and the open blossom to the full-grown boll."

Dr. P. then refers to another circumstance that indicates the true origin of this blight, in accordance with which the views heretofore so urgently pressed in these pages, as to the necessity of using the barn-yard and other organic manures along with the inorganic or mineral fertilizers. He says: "Wherever there is plenty of organic matter (humus) in the soil, this premature decay rarely, if ever, takes place. It begins uniformly in the poorest spots of the poorest fields, on the cones and extending down the sides of the hills, until it reaches the edge of the bottoms, where there is more organic matter and moisture. In the same way and for the same cause, new grounds recently cleared and put under cultivation, seldom show symptons of this blight.

"An interesting question arises, how does humus act as a preventive of rust? We answer, in three ways. First, by increasing the moisture of the soil, as it renders it more porous, more permeable to the rains and dews, and more accessible to capillary waters; while it imbibes more moisture from the air. Schubler demonstrated that humus will imbibe five times more moisture from the atmosphere than common ploughed land. Second, by furnishing ammonia to plants which it absorbs and holds, as well as the inherent nitrogen which exists in all organic matter before decomposition takes place. Third, by the mineral elements associated with humus, always held in soluble proportions, as established by M. Grandeau's experiments in France. Wherever there is humus (hydro-carbon) in a soil, there must be the mineral elements which result from the same source as the humus, viz: decay of vegetable matter. Hence humus in its widest sense is a preventive of plant exhaustion, because it furnishes an equable supply of moisture and nutrition.

"The best preventative, then, for this rust or plant exhaustion, is *to keep the land well supplied with vegetable matter*, which is so rapidly destroyed under the exclusive culture of cotton. A proper rotation of crops, especially the interchange of small grain every three or four years at most; or an occasional year's rest, or lying fallow, which amounts to the same, with the judicious application of fertilizers, will, we are satisfied, prevent any recurrence of this disease."

Cheap Transportation Meeting.

The American Cheap Transportation Association assembled at Richmond, Va., on 1st Dec., and was in session four days. Hon. Josiah Quincy, of Mass., presided. Mr. Thurber, of New York, read the report of the committee on Railroads, which recommends competition as the most effectual and permanent remedy for the evils of our transportation system, provided that they are owned by the people—and that the improvement of our principal water courses, together with the construction of short lines of canal to connect large bodies of water, is necessary.

The report of the committee on artificial water routes was read, concluding with a hearty endorsement of the recommendation upon water lines contained in the report of the U. S. Senate committee on transportation routes, and earnestly recommending to Congress to adopt such measures as will result in their speedy construction—which was adopted, with the other recommendations of the committee on resolutions, as follows:

In favor of a resolution asking Government to aid in the constrction of the Texas Pacific Railroad, and recommending Congress to adopt such means as will insure the speedy construction of the Atlantic and Great Western Canal, the James River and Kanawha Canal, the Chesapeake and Ohio Canal, the enlargement of the Erie Canal, and connection of the lakes with the Mississippi River, together with the improvement of the Mississippi and Ohio Rivers.

Other resolutions were read and referred for future action.

Baltimore and Ohio Railroad.

In connection with the subject of cheap transportation, the completion of this railroad to Chicago has created quite a sensation throughout the country, as has also a recent address of its President, Mr. *John W. Garrett*, on the occasion of his unanimous re-election, it being his seventeenth term of service. The recommendation of the cheap transportation association, that "the most effectual and permanent remedy for the evils of our transportation system is *competition* and the owning of the railroads by the people," is most emphatically met in the case of our great road, upon the completion of which to Chicago, the central point of business for the produce of the West to the Atlantic, a reduction of freights

to an enormous degree being the result, and a fluttering was produced among the railway magnates of the East, the leading ones hastening to Baltimore at lightning speed to endeavor to induce President Garrett to unite with them in their combination to keep up the rates which all the competing lines to the West had fixed upon last summer; but without effect, Mr. Garrett assuring them that his road was an independent line, able and determined to maintain its position.

At the election on the 9th ult., Mr. Garrett appeared before the Board of Directors to thank them for the renewed confidence which had thus been extended him, and in the course of his remarks he said:

"The Company has had a singular and interesting history for many years, in being able to develop its great resources and usefulness, when surrounded by the difficulties of war and embarrassments and corruptions in many and varied forms, which have existed in the country. We have been happy in being able to illustrate that a railway company can be managed upon principles of sound common sense, of sound business and of integrity, with the highest effectiveness and with proper remuneration to its owners. The result has been one in which our fellow-citizens of Baltimore and of Maryland can have only feelings of great pride and satisfaction. We have not labored merely to accomplish personal objects. These were thrown aside; and, as a consequence, we have had the representatives of the individual stockholders standing in solid phalanx in this Board with those of the State of Maryland and the city of Baltimore in acting liberally and comprehensively not only for the interests of our own State and city, but for many States, and, as is now generally conceded, largely and grandly for the interests of the people of our whole country."

He showed how the City of Baltimore has profited by its subscription to the road, of $3,250,000, for which it receives 10 per cent. interest, whilst upon the money she borrowed to make that subscription Baltimore pays but 6 per cent. He also stated that the *interest* paid by the railroad company upon the stock left by the late Johns Hopkins was $150,000 per annum, which was to be held in perpetuity for the maintenance of a university in this city which is destined to rival those of Cambridge, and Yale, and Princeton and Charlottesville, and as the stock cannot be sold to those outside of the State, the guarantee is given that the road cannot be made to pass into other hands, by which the interests of our city and State might be jeoparded. A portion of Mr. Garrett's remarks upon this subject we feel it proper to present entire, as honorable in a high degree to the public spirit of our people:

"It is very fortunate at a period when the evil results are shown of financial error—when many other railways, under the efforts of speculators and manipulators of stocks, committed the huge mistake of making not the reasonable and proper sum of capital which just expenditures in construction create, but greatly enlarged and exaggerated bases, on which interest and dividends are expected to be paid—that the action of the Baltimore and Ohio Company furnishes a striking and distinct contrast to their policy. It is a marked fact that, besides the public interests to which I have referred, as proprietors, the descendants of many of the founders of the Baltimore and Ohio Railroad are still holders of its stock. It will be interesting to those who may not be aware of the fact to know that years since, when the progress of this Company attracted the attention of speculators abroad and at home, foreign capitalists and capitalists from New York attempted to get a large ownership in its stock. Five dollars per share over the market price was then offered, and when five dollars did not tempt the holders, ten dollars a share over the market price, and finally fifteen dollars over the current market price was offered for large quantities of the stock of this Company; but the stock was held by those who had no speculative objects—by those who had confidence in the future of the Company, and who were interested in carrying out these great lines of policy, and especially in taking care of the interests of the city of Baltimore and of the State of Maryland, and contrary to the usages of Wall street and the money markets of the country, these sales were not made. The propositions were refused, and the result has been that this Company has never been under the influence of foreign holders, and to-day it stands proudly alone as the only great railway corporation of the United States that consistently, persistently and uniformly devotes its best energies and capacities to the development of the city and State and the territories with which it is connected."

At the meeting alluded to, a motion was made to advance the salary of the President, which has been $4,000, when Galloway Cheston, Esq., arose and said:

"We were all quite aware that the salary of our President for many years has been entirely a nominal one, whilst it was also known to us that large inducements had been tendered him and declined, that, if accepted, would have withdrawn his services from this community. Under these circumstances I did not feel at liberty to ask a continuance of Mr. Garrett's valuable services at a salary of $4,000 per annum. I have, therefore, to-day conferred with him on the subject of its proper advance. He met the proposal by a positive declination, saying—as he has done in past years—that if a continuation of his services was required, his motive in rendering them would still be usefulness to the community, and he could not, therefore, consent to any change being made in the salary."

On motion, the salary of the President for the ensuing year was then fixed at $4,000.

☞ Since the meeting alluded to above, the combination of the Eastern roads to the West, have reduced their rates below those of our Company, thus inaugurating a competition which cannot but be advantageous to the public, however it may affect the interests of the stockholders of the several roads.

Cheap Transportation.

All credit is due to our great Railroad Co., for their success in giving increased and cheap facilities to the Western farmers to get their produce to the Atlantic, the effect of which is of vast importance to the general wealth of our city and State, in building up our commercial mart; but it is to be remembered that the *farmers* of our own State had to bear a portion of the burthens in the way of taxation, to enable this to be done—and the question arises, very naturally, whilst they have thus given succor to the accomplishment of this great end, are they being dealt justly with in the discriminations which we are told are made against them in the local freight schedule. We have heard it stated for years, that the cost of bringing a barrel of flour from an adjoining county is as great as when brought from Wheeling! Is this so?

Farmers' Council of Va. and N. C.

The third annual meeting of this body convened at Petersburg, Va., on the 27th November. Col. Ed. Dromgoole, the President, in the chair. Fifty members were reported as being present.

After some preliminary proceedings, Major R. L. Ragland, chairman of the special committee on the establishment of planters' tobacco warehouses, submitted a report which was adopted, in which they say that on a thorough investigation of the management and *present* control of the tobacco warehouses, the committee met with many obstacles to the establishment of planters' warehouses, the property now used for the inspection and storage having proved so lucrative to its owners that they are not disposed to part with it except at extravagant prices, and also, that by the management of factors, manufacturers and traders, the producers exercise a control of a very small per centage of the crops annually placed upon our principal markets, and that it will require a united co-operation and combined effort on the part of the planters to control the sale of their products, and to thwart the efforts of the middle men for breaking down State inspections of tobacco—and the action of the Council is urged again to speak out, as at the last session of the legislature, to sustain their friends in that body who are endeavoring to thwart the purposes of those who seek to overthrow the State inspection of tobacco for their own selfish purposes. The committee moreover declare, that though failing to inaugurate planters' warehouses, for reasons and difficulties assigned, plans are being laid and efforts will be adopted at the proper time to place the whole subject of charges and inspections outside of the control of the present warehouse rings. "Planters as a body have only to be true to themselves and to their own interests, and reserve full control of their products, to accomplish a satisfactory settlement of a question that *they* ought to have decided long ago."

The report further states that "the recommendations and decisions of the council on the subject of tobacco have been so manifest, and its actions so fruitful of good results, in the relief it has already brought to planters in the States here represented, in the saving through samples and insurance of from sixty to seventy thousand dollars annually, as thus to entitle it to the confidence and everlasting gratitude of the tobacco planters of Virginia and North Carolina."

At a subsequent session, Major Ragland offered the following resolutions, which were discussed very sharply from day to day, being opposed by parties who were charged with being interested in the warehouse property, but finally *unanimously adopted*, viz:

First. That bonded State officers are proper persons to draw samples from packages of tobacco; that experience has proved the laws regulating inspection of tobacco are fair, just, and ought not to be repealed. To retain disinterested officials to draw samples farmers are willing to pay necessary legal fees. Efforts to break down State inspection of tobacco, coming from whatever source, are inimical to the best interests of tobacco and disregarded by the Legislature.

Second. To maintain the high character of Virginia and North Carolina tobacco, a rigid compulsory State inspection in regard to all tobaccos ought to be retained. The law passed at the last session of the Virginia Legislature, discriminating between Virginia and Western tobacco, requring such to be inspected before being sold, to be branded "Western tobacco," is but a just protection to the character of the Virginia staple.

Third. That we uphold legal inspections of tobacco where necessary to break packages for inspection; we will encourage warehouses where inspectors are appointed by the Executive and commissioned by law.

Fourth. The law allowing owners of warehouses where tobacco is inspected by law to choose the same after two months notice of their intention to choose, ought to be repealed, and the owners be restrained from reopening the same houses for storing, sampling, and selling tobacco in them.

Major Mann S. Page offered the following resolution, which was adopted:

Resolved, That the Tobacco Committee be instructed to look to the expediency of, and to petition the General Assembly to enact, a bill providing for State warehouses and State inspections in our tobacco markets for the receiving, inspecting and selling of all tobaccos sent to such warehouses for the farmers of Virginia and North Carolina.

Numerous other resolutions were offered, and generally adopted, among them for the appointment of a committee to memorialize the legislature, the better to protect the farming interest, to make it a penal offence to hire a laborer already under contract.

Also upon the National currency question, in which an extension of the paper system is recommended as necessary for the public convenience.

To grant aid by Congress, of public lands, to the Southern Pacific Railroad, equal to that granted for the Northern and Union Pacific, as a matter of justice to the South.

To encourage home industries and manufactures in order to relieve the people of the drain by Northern manufacturers, without any compensating trade in return—and to endeavor to induce Northern manufacturers to bring their

machinery and capital to the South, and settle themselves in the midst of their best customers.

Mr. John Dodson, of Dinwiddie, introduced to the Council Messrs. A. H. St. Andrew, A. Whitehead and H. F. Bowler, delegates to the Council from the "British Association of Virginia."

Mr. St. Andrew responded to Mr. Dodson's eloquent remarks in an admirable speech, in which he alluded to the importance of immigration. He was very sorry to hear Mr. Booth, some time before, make the assertion that newspapers had been of no benefit to farmers. He was sure the gentleman had made the statement thoughtlessly and without reflection. He alluded to the importance of immigration to the State, and said it was from the press that Englishmen obtained an idea of the mineral wealth of Virginia and its adaptability to English settlers. [Applause.] He spoke at some length on the subject of immigration, and was listened to with interest by the Council.

A resolution was also adopted earnestly recommending a thorough repair and improvement of the public highways, as one of the means of attracting that class of actual settlers who would be of the greatest advantage to the States.

Mr. Bolling introduced to the Council Mr. Billyew, of Halifax, N. C., who spoke on the importance of fruit raising.

Mr. Billyew said that he had gone into the fruit-raising business in preference to any other. He showed by facts that Virginia and North Carolina were better adapted to fruit-raising than either New Jersey or Delaware. He found it more profitable than raising cotton or tobacco. He stated that he bought in 1863 a worn-out farm at a small price and set out fruit trees. To-day he would not exchange that plantation for any property. He stated that the peaches grown in Virginia and North Carolina would be ready for the New York market two or three weeks before those of New Jersey and Delaware, and that the demand for them was now greater than the supply. He demonstrated the great profits made by fruit-growers, and his remarks elicited frequent applause.

He offered the following resolution, which was adopted:

Whereas, the fruit interest merits more attention than it has heretofore received in Virginia and North Carolina, be it

Resolved, That we earnestly recommend to the agricultural clubs and granges in both States the appointment of standing committees, to promote this interest, whose duty it shall be from time to time to present reports to their respective bodies setting forth the importance of a larger development of said interest and presenting such suggestions in connection therewith as may appear useful or appropriate.

The Council then adjourned *sine die*, to meet at Petersburg next year.

Maryland State Agricultural Society.

The monthly meeting for December was slimly attended,—no public notice, we believe, being given of it. Some conversation took place relative to improved means of reaching the show grounds, but nothing definite was determined upon. The committee on public roads asked for further time to report.

Correspondence.

Getting a Set of Clover.

To the Editors of the American Farmer:

The "Enterprise Club," of Sandy Spring, Md., is composed of sixteen practical farmers who meet once a month at the houses of the respective members. Their usual programme is to inspect the premises generally and discuss matters of interest, and ask and answer questions for mutual information; also to read essays written by the members.

At a recent meeting an essay was submitted showing how to get a *set* of clover. It brought forth considerable interesting discussion, and induced the members to buy several tons of "Kainit" and potash to experiment with.

Our members were so much interested in the essay that they desired it published for the benefit of the readers of the *American Farmer*.

SECRETARY.

I am fully cognizant of the fact that there is no member of this club who possesses less ability to write an essay than myself. Yet, appreciating the great good already wrought in our midst by the very few essays heretofore produced, I have been made willing to attempt to do my part, hoping thereby to encourage others more competent to "follow suit."

Peter Henderson, in his excellent practical treatise on market gardening, says: "No one should engage in that business without a working capital of at least $300 per acre, and that he has known many steady, industrious men to have utterly failed and lost every dollar they possessed merely by attempting the business with insufficient capital."

Now the same may be said in a measure of farming. Most farmers commit this egregious error of tilling too much land in proportion to their working capital. There is scarcely a branch of husbandry that we engage in that we do not attempt more than our means will justify. In dairying, we usually keep more cows than we can properly provide for. The attention we bestow on our fruit trees would effect finer results if applied to one-half the number. It is customary in this vicinity to hurry and "shuffle" into the ground from five to twenty acres of potatoes, without the proper fertilizing materials in the soil; the consequence is, we raise about as many potatoes as ought to be produced on one-fourth the area.

There is four times the labor expended in planting, cultivating and "bugging;" yet when digging time arrives we generally get one-fourth the yield that should be realized.

Just so it is with wheat and grass seeding; a great deal more surface is gone over than we can properly ameliorate or sufficiently fertilize. The wheat *may* make a crop, if the season suits; the grass seed *may* take, but the chances are not in its favor as a rule.

We would often save time and money, by leaving the furrows uninverted, to return to their primeval sedge or forest, and not invert them merely to be reverted in a twelvemonth to their former barrenness.

It has been justly remarked that clover is the base of all good husbandry, yet the loss of a *set* would not make such great odds did not each failure bring us one year nearer our graves. X. A. Willard says: "Life is too short; we cannot afford *ever* to miss a *set* of clover." And we need *never*, if we manage properly. I feel sure of what I say. We have seen enough good stands of clover these three or four past dry seasons to prove my assertion. And those good stands have not been on land carelessly cultivated or sparingly manured.

They have been in almost every instance where barn-yard manure and superphosphates have been used with a liberal hand. Now, what I would advocate is this: that we bring our minds and our acreage down to the level of our means. Instead of investing $150 in manures for 10 acres, put the whole amount on 5 acres; not all in superphosphates either, but vary the material: say, 500 lbs. of Bond's "I X L" at a cost of $15; 50 bushels oyster shell lime, at $6; 500 lbs. of potash or 50 bushels ashes at $6; and the remaining $3, in plaster applied at different times to each acre. The lime, we are to understand, has already been used a year or two previously.

Far greater exertions should be used in properly preparing the seed-bed. Such delicate seeds as wheat and grass seed need a carefully prepared soil, if we expect them to do their prettiest. This is verified by the parable of the sower, in the 4th chapter St. Mark: "And it came to pass as he sowed, some fell by the wayside, and the fowls of the air came and devoured it, and some fell on stony ground where it had not much earth, and some fell among thorns and the thorns grew up and choked it and it yielded no fruit." But it was only that which fell on the fine rich mellow soil that sprang up and produced an hundred fold.

Now, if we would adopt the course I have indicated above, instead of a failure in a *set* of clover, or perhaps a partial *set*, producing from half to one ton per acre, I would almost guarantee a good set with a yield of from two to two and one-half tons per acre, regardless of the season.

If we furnish to young clover suitable nutritious and stimulating food, such as lime and potash have proved themselves to be, we encourage an early and vigorous growth of the clover plants, in the cool moist spring weather, and such a growth I have never known the severest drought to annihilate.

EDWARD PORTER THOMAS.

Belmont Farm, Montgomery Co., Md., Oct., 1874.

Muscovy Ducks.

The *Poultry World* says of these ducks that they are not a different variety merely from Rouens, Aylesburys, Pekins, Cayugas and the common "puddle" ducks, but they are a different species. While the Muscovys cross readily with either of the above named, the progeny from such a union is *barren*. The cross-bred *mule* ducks are large and excellent for the table. The quiet appearance of the Muscovys, as well as their rapid growth and the excellence of their flesh when three-fourths grown, commend them to the poulterer's attention.

Rotation of Crops.

Dr. Thomas R. Ditty kindly furnishes us with the following paper, recently read before the Monroe Farmers' Club, of Westmoreland county, Virginia:

Plan for the gradual improvement of poor land while being cultivated in corn, wheat and clover.

In four-field Rotation—Full View of Rotation.

YEARS.	FIELD 1.	FIELD 2.	FIELD 3.	FIELD 4.
1st.	*a.* Corn taken off. *b.* Rye sown.	*a.* Clover taken off. *b.* Pasture.	*a.* Clover sown. *b.* Wheat taken off.	*a.* Rye plowed under. *b.* Peas plowed under. *c.* Wheat sown.
2d.	*a.* Rye turned under. *b.* Peas turned under. *c.* Wheat sown.	*a.* Corn taken off. *b.* Rye sown.	*a.* Clover taken off. *b.* Pasture.	*a.* Clover sown. *b.* Wheat taken off.
3d.	*a.* Clover sown. *b.* Wheat taken off.	*a.* Rye plowed under. *b.* Peas plowed under. *c.* Wheat sown.	*a.* Corn taken off. *b.* Rye sown.	*a.* Clover taken off. *b.* Pasture.
4th.	*a.* Clover taken off. *b.* Pasture.	*a.* Clover sown. *b.* Wheat taken off.	*a.* Rye turned under. *b.* Peas turned under. *c.* Wheat sown.	*a.* Corn taken off. *b.* Rye sown.

1st year.—In corn. Apply not less than 20 bushels lime per acre, and manure extensively as practicable. At the last working of the corn, or after its removal, sow rye one to two bushels per acre.

2d year.—About the 15th of May plow under the rye, apply 10 bushels lime and 10 bushels ashes, or its equivalent of some potash manure, and sow 1 to 2 bushels per acre of Indian peas, harrowing them in. When the peas are well in leaf dress them with 1 bushel per acre of a mixture of plaster ¾ and of common salt ¼, and when they come into bloom plow them under and sow wheat, applying 100 to 200 pounds per acre of super-phosphate of lime.

3d year.—In February or March sow clover seed 1 gallon per acre, and when sufficiently grown dress it with 1 bushel per acre of the mixture of plaster and salt, and when the wheat is taken off, scrupulously protect the field from hoof or tooth.

4th year.—In March or April again dress the clover with the plaster and salt mixture, cut the first growth for hay and then pasture the field prudently.

The distinctive feature of poor land, whether so naturally or become so from improvident tillage, is lack of soil, and this it must accumulate or continue unfertile. Soils mainly consist of vegetable mould, sand and clay; the mould being more or less rich according to the kind of vegetation whose decay forms it; the sand and clay more or less abounding in inorganic plant food according to the character of the rocks whence, by disintegration, they have come. This condition, necessary to make poor land fertile, is believed to be provided for in the foregoing plan for its renovation, which, if adopted and fairly pursued, must, it is thought, result in satisfactory improvement.

The specific action of plaster on clover and peas being important to the success of the above plan, and a satisfactory explanation of its mode of operation being yet a desideratum, I venture to subjoin the following conjecture in regard to it: In order to procure the specific action of plaster on vegetation, facts would seem to indicate that it must be applied to sulphur plants growing on *alkaline* soils, and its mode of operation may perhaps be thus explained: The plaster being so applied, dissolved, and taken into the circulation, the vascular function of the plant separates the lime from the acid and then decomposes the acid, appropriating its sulphur, and the oxygen thus set free while in its nascent state, being persuaded by the alkali present in the sap, unites with the free nitrogen of the air held in the sap and forms nitric acid, which seizing on the alkali forms an alkaline *nitrate*, all of which are known powerfully to promote the growth of plants.

The well-known fact, that available nitrogen largely accumulates where clover, peas, and other leguminous plants are grown, plainly leads to the conclusion that these plants have the faculty of causing nitrogenous combinations within their organism, whereby they improve the land they grow upon; and if not in the way suggested above, possibly it may be through the agency of an "electric current," produced or accelerated by the application of the plaster or its acid.

If this explanation be admissible its importance is apparent, as soils not already alkaline * can be cheaply made so, and the richest vegetable mould is formed by the decay of sulphur plants, such as clover, peas, &c.

IN THREE-FIELD ROTATION.

1st year.—In corn, with peas sown among it at its last working, and hogged down after the corn is removed.

2d year.—Oats taken off and stubble turned under, and peas sown and turned under, and wheat sown.

* Soils may hold *insoluble* alkali without being alkaline in the sense here meant.

3d year.—Wheat taken off, stubble turned under, and peas sown and hogged down.

Corn, oats, wheat and peas being appropriately manured as far as practicable as directed in four-field rotation.

IN TWO-FIELD ROTATION.

1st year.—In tobacco, well-manured, followed by wheat sown.

2d year.—Wheat taken off and stubble plowed under, and peas sown and hogged down, and rye sown to occupy the field till May following, when it may be cut for soiling, or plowed under in the preparation for tobacco. Manuring as suggested in four-field rotation.

ONE-FIELD.

Sow wheat, oats or rye every year upon an intervening pea fallow, using lime, potash, bone, lime and plaster as directed in four-field rotation; *or*

Corn may be repeated every year with gradual improvement by sowing peas at its last working and hogging them down, followed by rye, to be turned under green for corn as late in the spring as may be safe.

Bear in mind there can be no *permanent* improvement of lands without giving it mould, and there is no readier or cheaper way of doing it than by growing and turning under peas, aided by dressing, if needed, in organic manures.

Baltimore County Gunpowder Club.

Messrs. Editors American Farmer:

The November meeting of the Gunpowder Agricultural Club was held at the residence of John D. Matthews, S. M. Price foreman. On the tour of inspection attention was directed to experiments on the growing wheat, with equal quantities of Whitelock's Vegetator and ground bone. In one place 320 pounds of each had been used; in another, 640. In both the superior effect of the Vegetator was plainly perceptible, though no great difference was apparent in favor of the larger amount.

A Hay Elevator.

At a barrack in the meadow, a hay elevator, playing upon a track lodged in the interior peak of the roof, was put to work. The elevator operates to either gable. The machine, however, found no friends. It was claimed that the arrangement with ropes, as exhibited at the October meeting, was in every respect preferable.

Planting Out and Managing Apple Orchards.

The club discussed this question: How should apple orchards be planted and managed, and how can we secure the greatest profit from the apple crop?

A. J. Gent.—Has had no experience in planting. It is more profitable to sell the fruit than to make it into cider. Has had no experience as to the good or bad effect of working or not working apple orchards. Probably he shall be able to test whether deep or close plowing will injure or improve trees, as he has pursued this course the past season.

Edward H. Matthews.—In order to secure thrifty trees he thought the holes should be large, and that in planting a plentiful quantity of hog manure composted with rich earth should be used.

D. Gorsuch.—The first thing to be done in planting an apple orchard is to select a proper location. On this depends success. The site should not be too low or too high, and should lie to the south, with northern and western protection. The ground should be prepared by thorough plowing and deep cultivation. Trees should be planted in squares of 40 feet; holes should be dug 4 feet wide at top, and 2 feet deep. In digging, the surface and subsoils should be kept separate. Woods mold is a good filling for the bottom. The selection of fruit is also an important matter. In his orchard the mistake was made of getting too much early fruit; late pays nearly as well again. He would prefer southern fruit to northern. Winter fruit from the north becomes fall fruit with us. Fall is the best time to plant. Trees should be tied with straw to stakes to prevent chafing. His orchard was taken up in sections for working. The portions worked made double the growth of those not worked; the difference was very perceptible from year to year. The shaping and pruning should be done when the tree is small. In the 3d, 4th and 5th years a little pruning is sufficient; whereas, if deferred, much is subsequently required, and the tree is thereby injured. He makes his early fruit into cider. His winter fruit he puts first into fodder-houses, formed around his apple trees. After an interval they are assorted into open fruit-boxes, and afterwards barreled. The barrels are left in the houses, headed up, until freezing weather comes, when they are stored in cellars. In barreling he is careful to knock out all nails protruding through. Varieties—For early fruit he likes the Early Harvest and Red Astrachan; for summer and fall, Golden Pippin, Belleflower, White Robinson, Paradise; for winter, Rhode Island Greening, Shipley Green, Carthouse. Finds vinegar more profitable than cider. In the latter, fermentation offers an obstacle in shipping by railroad. Cider yields about 10 cts.; Vinegar 20 cents. Loss in turning cider into vinegar is not very great—in money would say $2. Cider will make vinegar in one year.

Question—What process would you recommend? Ans.—Only that of changing; he runs his vinegar through three hogsheads; a stock of mother causes vinegar to make rapidly.

He neglected to mention, in reference to working orchards, that, if he could help it he would not put a two-horse plow among his trees after they became large; he would use a one-horse plow, crossing with a two-horse shovel. He cultivates mostly in fodder corn. [*Note.*—Here the statement was made that a convention of farmers, held during the recent State Fair at Rochester, unanimously approved of fodder corn as the best crop for apple orchards.] In regard to fruiting a period of from 12 to 16 years elapsed in his orchard from time of planting, owing, doubtless, to a series of cold winters. Trees planted since came into bearing in from 6 to 7 years. Grafting has resulted satisfactory.

John D. Matthews.—He differs with D. Gorsuch in reference to location and northern and western protection. His orchard lies high, dry and exposed. Fifteen years ago it was noted for its fine fruit and prolific bearing. From its high situation he thinks it is less liable to be affected by frost. He had never planted an orchard; in his views as to the manner of planting he agrees with D. Gorsuch. An orchard should be kept in constant cultivation, as in this case the little rootlets do not seek the immediate surface. If cultivation should be intermitted the rootlets come to the top, and if their ramifications are then interfered with, injury results to the trees. When he was in business in the city he instructed his tenant to plow his orchard, and he did plow it with a vengeance, tearing out roots as large as a man's arm. His orchard has since declined rapidly.—The best course to pursue with an orchard in the matter of cultivation, is to make it an outlet for hogs—they would root up under the trees and give them the proper kind of cultivation. Thinks it better to sell cider at $2 per barrel than vinegar at 10 cents per gallon. Mr. M. made some statements concerning the production of vinegar, according to one of which a very fine article can be secured by keeping the casks at a constant drip, on the principle of uninterrupted agitation and exposure to the air.

N. R. Miles.—The location should be high and level. He would prefer a Northern exposure to a Southern one. The ground should be well cultivated before planting. He does not believe in digging very large holes, or in putting manure about the roots. Manure is injurious in a dry season. He is acquainted with a farmer who lost one-half his trees by using manure in this way. In getting nursery trees he finds a great many defective roots, viz: covered with a mold and with knotty excrescenses; such trees never thrive. He would not care about going either to the North or South for trees—we can get them better in our own State; though, if he had to choose between the two sections named, he would prefer the northern fruit—the southern is small and inferior. In planting he is careful to spread the roots out well. Puts the surface soil in first and subsoil afterwards; tramps well as he puts in; never stakes. Thinks trees ought to be cultivated thoroughly and trimmed when young—they ought not to be touched after they begin bearing. White-washing keeps them clean and frees them from insects, which harbor under the bark and injure them. Two washings will smooth them off. Varieties—for summer apples he would take the Early Strawberry and Summer Pippin. The latter is a great bearer; fruit fine and large. If he planted 100 trees he would plant one-half in the fall and the other half in the spring—he would then have fruit every year. The fall and spring planting would give him the desired alternation. The Fallowater is a No. 1 apple, though more than any other subject to be destroyed by worms. A wheelbarrow load of coal or wood ashes applied in August or September, around each tree, is a good preventive of the latter—unleached ashes to be preferred. In cultivating when young a medium depth of from five to six inches is the best. If let lay a few years the roots will form on top—in this case he would not advocate plowing, nor when the trees get well grown. Mulching with coarse manure is very beneficial to young trees. Winter varieties: Shipley Green, Rhode Island Green, York Imperial (a great bearer) and Smith's Cider.—Late winter and spring: Long Island Russet, Tewksbury Winterblush. Grafting:—He would

not graft on old trees; in general he was opposed to grafting. His grafted trees, even young ones, after bearing two or three crops begin dying in the top. There is not much profit in early apples unless they are made into cider for vinegar. He would sell apples at fifty cents sooner than make into cider; he would rather sell cider at $4 per barrel than vinegar at $8 per barrel. It will take two barrels of cider to make one of vinegar. He considers apples more profitable than any other fruit we raise. In gathering he does not think that a little frost does any harm. Believes in taking the barrels into the orchard, picking and filling direct from the trees and storing in the cellar—has found them to keep better than those placed in fruit boxes and stored in the barn.

Foreman.—A few years ago they had planted a young orchard on a hillside, northern exposure. His experience convinces him that it is best to cultivate till trees reach maturity. In coming into bearing he finds great difference in different varieties. Fallowater and Golden Russet bore before they were in the ground four years—some did not bear for eight or nine years—some have not borne yet. Gravenstein does not bear early—Smith's Cider bore in six years. Grafted apple trees, without regard to age, begin to die at the top. Grafting makes no difference in pears. He would prefer turning his cider into vinegar, as the marketing of the cider comes at a busy season.

S. M. Price's experience coincided mainly with that of the foreman. In setting out he thought the depth at which the tree stood in the nursery should be exceeded by two inches, and that in filling in the earth it should be moved up and down so that the soil might sift in around the roots, thereby enabling the latter to assume a freer and more natural position. He spoke of the Early Bough as a fine fancy apple. It comes in the last of June, and continues good for six or eight weeks. His best winter apple is the Newtown Pippin.

W. W. Matthews—Would plant forty feet, with intervening rows of peach trees; the latter would be done bearing by the time the apple trees are grown. Approved of giving up to hogs at maturity, and ceasing to cultivate. Their orchards had not been plowed for eight or nine years. For thriftiness and good bearing it is one of the best in the vicinity. The Rambo is a superior apple—brings a higher price than any they have.

Jos. Bosley—For the last twenty-three or four years he had been planting some apple trees every year. This is the first season he has gathered a crop. In planting he digs holes 3 to 4 feet wide and 18 inches deep, working up the bottom with a mattock or pick; then he fills with rich earth. He has poor success in getting his trees to live. Some grow to be six inches in diameter before they die. Does not know whether it results from worms or wind, (soil is light,) or winter killing. He has three exposures—North, South and West. Thinks trees should be worked well for two or three years, but not so much afterwards. His experience in grafting is similar to that of N. R. Miles and S. M. Price. Good varieties are Lady Finger and English Red Streak.

A. C. Scott—He planted an orchard in '48. More than half the ground occupied lies to the North; soil rotten-rock. The Southern side is clay. Has found no difference between the two except that the Northern side bore one year earlier. He cultivated for the first five or six years and then stopped; the orchard did about as well. He has been cultivating again for the last two years. He can't see that cultivation has done any injury. Varieties—Rambo does best; bears more regularly, and sells as well. Fallowaters were all destroyed by the borer. He found this fruit kept till June. Apples at 50 cents pay better than making into cider. The first falling of apples makes the best vinegar.

Edwin Scott—Had found the cultivation (plowing) of matured trees injurious. Coal ashes about the roots are beneficial. Such fruit as he could not dispose of in market he would make into vinegar. Has been disposing of cider advantageously in small quantities of 5 and 10 gallons. If cider can be kept well it will pay better than vinegar. In making it into vinegar there is a loss of one-half.

In a desultory way mention was made of a young orchard planted in part over the area of an old one. The trees on this latter portion all died, while those on the adjoining portion give evidence of health and thrift. Likewise of a case well known to several present, in which an orchard of strictly Southern exposure with complete Northern and Western protection had cropped well for some successive years, during which period the orchards of the neighborhood had made poor returns or none at all. T. G.

Baltimore Co., Dec. 14th, 1874.

Correction.—In the November No. of the *Farmer* Mr. Hardesty is made to say of hen manure that "in a dry state it disintegrates completely," whereas, it should stand "on being moistened with water it disintegrates completely." T. G.

Our French Letter.

To the Editors of the American Farmer:

The dodder continues to make terrible ravages in artificial meadows, completely choking clovers and lucerne. Several remedies to combat the parasite are proposed; keeping the meadows close-cropped by sheep, and even as in Belgium, by burning, in those parts of the field most infested, dried stems of colza. The lucerne is only momentarily injured; the first showers of rain combined with the ashes soon cause the plant to spring up anew. The best of plans is not to sow the pest, that is to say, to sift it out of the clover seed, &c., by a special machine, and afterwards save your own lucerne seed, &c. The seeds of the dodder are not destroyed by the process of digestion, nor still in the manure heap. For meadows affected with rushes and reed-grass a top-dressing of soot is recommended, but applications of phosphates—the drainage of the land being understood—in various forms pending three years in succession, have been found successful. An addition of 1 cwt. of some potash or magnesia salt per acre during the third year, will enhance the value of the top-dressing.

Mixtures of Chemical Manures with those of the Barn-yard.

It is becoming a rather general practice to employ chemical manures by mixing them, shortly before using, with farm-yard manure, which dissolves while appropriating the salts, acquiring thus more fertilizing energy. Malt-dust, when not employed for feeding purposes, is generally mixed with night soil. When cooked and mixed with ordinary rations, these barley sprouts are relished by hogs; milch cows are not averse to them in a mash, and mixed with oats or bran, commencing by a little at a time, horses eat them greedily. In the North of France the waste of the woolen factories is largely employed as a manure; decomposing slowly, their effects are often not visible till the third year, hence why some farmers use the refuse as litter for sheep and cows, decomposition being thus facilitated by mixture with the urine, &c. Some fabricants of manure kiln-dry the waste, without, however, burning off its nitrogen, guaranteed to vary from 6 to 8 per cent., adding what it is completely deficient in,—phosphoric acid, potash, and lime. Burnt gypsum in powder is daily dusted over the floors of stables and cow houses in Switzerland, where the preparation of farm-yard manure is studied with great care.

Co-operation—Preserved Meats—The Phylloxera.

In the villages of France the movement is spreading to establish co-operative bakeries, and farmers have found it to be their interest to support them, as bread, whether made of wheat, barley or rye, forms the staple diet of the laborers. Meat is high, but in the butchers' shops only. France produces ordinarily more wheat than she consumes, but she has to import sheep and salted provisions. There appears to be a desire to try fresh preserved meats, and the desire will spread, as the celebrated gastronomist, Baron Brisse, has favorably pronounced on samples which have been exported from Adelaide; the Australian is more in favor than the South American meat. The Congress of vine-growers, elsewhere noticed, at Montpellier, will lead to some important measures to arrest the ravages of the phylloxera. At present the state of these measures is this: prohibit the exportation of stocks and branches of vines from infested districts; give to the vines a vigorous vegetation by strong manuring and good culture; flood the vines in autumn, the Fancon process, wherever practicable. Every preparation for killing the phylloxera is officially sent to M. Mauillefert, at Cognac. He has reported that the sole chemical agent that has succeeded in killing the bugs in the course of three days is the sulpho-carbonate of potassium, as recommended by the eminent chemist, M. Dumas. An ounce of this salt dissolved in water and poured into a cavity made around the stem of the vine is all that is necessary to be done. The expense is about two sous per vine. Coal tar has also some admirers. If the "perfect cure" be not found, we are on the eve of discovering it.

The new plant, *Madia Sativa*, is rapidly making itself known in maritime Flanders, and in the country around Dunkirk. Madia is an oil plant, yielding 32 per cent. of oil—excellent for paints and soaps—leaving about 7 per cent. in the cake—capital for manure. Light, sandy or rye soils suit it best; it dislikes stiff lands and humidity. Its culture is simple and economical, yielding a net profit of fr. 300 per acre.

Commercial Fertilizers.

Despite all the efforts made by chemists and repressive laws, the adulteration of commercial manures is alarmingly general; this arises from the extensive demand for them, which at the same time is a tribute to their worth. Analysis may do much, but the grand security is to purchase only at the fountain head. For numerous farmers it is not possible to dispense with an intermediary agent, and the latter, too often, if he does not adulterate the manure, waters it to increase its weight. A gentleman makes a very sensible suggestion in relation to guano, and which could be extended to other manures, namely: to sell the guano in sacks of uniform weight, properly branded, and even sealed. Another farmer proposes that the crop should stand as security for the payment of the commercial manure; the seller to be punished if the purchase produced no beneficial effects. In the polder lands of Picardy the employment of salt with guano has been abandoned for pulverized phosphates, and a chemist draws attention to the fact that heating two portions of guano in an oven, of which one contained an addition of salt, and the other remained pure; the latter lost in the same time double the quantity of ammonia than the other. In the neighborhood of Nantes, gas lime is very much employed, as lime is usually. Before being applied to the soil, however, it ought to be exposed fully to the air for four months, otherwise the soluble salts of iron which it contains would destroy vegetation; the many tarry essences it contains, makes gas lime also valuable as an insect destroyer. Colza oil cake is very much in demand as a manure, especially for vines,—from 1 to 1½ pound of the cake, reduced to powder, being employed for each stem. It is also excellent for cereals and grass land; at the rate of ½ and 1 ton respectively, per acre. This cake-dust acts very promptly, and the vegetation acquires a healthy and vigorous green; it is rich in nitrogen, phosphate, potash and lime, and contains generally about 4 per cent. of oil, that the most perfected machinery fails to express. The cakes ought to be preserved in a dry and airy situation, and only reduced to powder before being scattered, either by the hand or the machine. The dust has a tendency to become mouldy, if left exposed to the air.

The Vine Congress and the Phylloxera.

The long-expected Vine Congress has been held at Montpellier, in which the past and present state of Vineyards has been profoundly examined, in presence of practical and scientific men, including representatives from foreign vine-growing countries. The Phylloxera disease was exhaustively discussed, as well as the multitude of curative processes. The results of the Congress are these: The vine is not diseased, it suffers from the attacks of a bug; the only known means to kill it, so far, effectually, is the Fancon process of flooding the vineyards for about two months, at the close of autumn, and to afterwards apply stimulating manures; that the disease has pro-

gressed, owing to the supineness of cultivators, or a want of confidence in the possibility of mitigating the evil when once it appeared; that attention should be concentrated to make the vine live despite the insect, and which can be largely ensured, by mixing sulphuret of potassium with the liquid manure, guano, sulphate of ammonia, and other nitrogenous manures, which will fortify the plant and enable it to bear fruit, while more or less rendering the soil repulsive for the insect. Strengthen the plant to fight it out with the Phylloxera. No danger need be apprehended of the manures affecting the flavor of the grapes; the *bouquet* of the wine, for the manures must be applied at the beginning of winter, and thus the soil will have ample time to act on the manure and to destroy its odor. M. da Silva Luz, of Lisbon, has succeeded in raising young vine plants from the seeds of the grape; he sowed in May a quart of the seeds, in a well-prepared bed of rich earth, mixed with wood ashes, watering the plat twice a day; in the course of a week they appeared above ground, when he continued the watering—the weather being hot—breaking the crust of the soil very carefully. To-day he has a border-tuft of young vines 18 inches high, which he intends to plant out.

Dairy Products in France and Switzerland.

The butter of Normandy and Bretagne is proverbially famous, and is largely exported to England, Belgium and South America; the French government have just put a check on brands purporting to represent the real article, while it was only a deleterious compound, intended chiefly to benefit by the customs draw-back allowed on salted butter. The preparation of condensed milk is assuming serious proportions, chiefly because milk is becoming a favorite article of diet for invalids. France can never compete with Switzerland in this respect, nor can Swiss milk hope to undersell that prepared in France, the import duty being ten times higher than that in England. Switzerland supplies the world with her famous *Gruyère* cheese, the United States being her best customer, and next France. Last year this cheese has not been so good, and the same has been observed of the famous *strachino* of Italy. Swiss butter is not in much repute; its white color tells against it, and it has no marked flavor.

Indian Corn in French Agriculture.

Quite a revolution is taking place in the agriculture of the South of France, by the cultivation of maize for green fodder, and its preservation in a green state, chopped and mixed with straw, in trenches, for winter consumption. It is peculiarly adapted for warm climates and dry seasons, and is not liable to those influences that diminish the yield of grass, clover and vetches; for it the sun is a powerful auxiliary. The maize is well manured, and yields from 30 to 75 tons per acre. In this manner maize will as completely transform the agriculture of the South as beet has that of the North. Beet yields from 20 to 30 tons per acre, and after distillation one-half of this quantity returns in the shape of pulp, which, when preserved in trenches, mixed or unmixed with cut wheaten straw, is considered equal to 3 or 4 tons of hay.

Technical Schools.

The examinations this session for admission into the Veterinary College at Alfort, have been very brilliant and searching; 97 candidates were admitted and 99 rejected; 47 possessed a knowledge of English and German,—and the programme of studies is extensive and profound. This college now leaves nothing to be desired in point of practical as well as scientific knowledge; there are extern as well as intern pupils. The Shepherd's School at Rambouillet has also opened satisfactorily, and each year confirms its usefulness.

Aboriculture—Items.

The poplar is a tree extensively cultivated in France, lining the way-sides, making divisions between farms and fields, and sheltering canals and marshy grounds. These, as well as the alder, continue to be severely attacked by the weevil or snout-beetle, which burrows into the bark, works upwards into the heart of the young tree, causing the leaves to prematurely wither, and the extremity of the branches to decay. The trees severely attacked ought to be cut down and burned; those slightly affected ought, where the ravages are perceptible, to be well scraped and coated with coal-tar. It is also considered prudent, where poplars have decayed from attacks of the weevil, to allow two or three years to elapse before replanting.

Sulphur completely destroys the oideum in clover and peas, as on the vine.

A kind of wire fencing has appeared, very suitable for kennels or poultry-yards. The upper part has a comparatively large disk-edged border, either level as a border, or inclining inwards. When the dog puts his fore-paws on the drum, it commences to turn, and thus deprives him of a support to take a spring.

Several Italian agriculturists are advocating greater reliance upon the subsoil as a means of increasing the fertility of the surface soil.

M. Sauradon has a pasteboard india-rubber tube, nine inches long; at one end he holds an egg, which has been three days in process of hatching, and looking through the other, at the side of the sunlight, if he observes fibers, the egg is sound. F. C.

Paris, Nov. 28, 1874.

The Season in Eastern Virginia—Hogs for that Section.

An obliging correspondent in Nansemond Co., Va., gives us the following in a private letter:—

The past fall has been quite favorable for the truckers' work. Their lands are all flushed; their marrowfat peas sowed; their manure is being hauled, composted and turned over, ready for the drill. Drilling manure for potatoes and the early cabbage will be commenced in a short time after the new year, and some of our people have already set thousands of plants in the field, the propriety of which I must reserve for future discussion.

Most of us in this vicinity have finished getting in our crops and are killing our pork. In the vicinity of Chuckatuck—six miles distant—sundry of your patrons have lost their hogs by cholera. One gentlemen lost 40 fattening hogs, some weeks since, and another lost 28—his all;

others a lesser number. Yesterday I salted two pigs—a cross between Jersey red and Chester—age 17 months 20 days, which weighed 420—379 lbs.—an average of nearly 400 lbs. They were not yet grown, but were fat, and my lady estimates the lard at 225 lbs., with 75 lbs. in sausage; a part of the middling went into lard, and shoulders trimmed close for sausage. They were fed in pens all summer on slops and clover daily; fattened on meal this fall, sometimes cooked—mostly as dough, with a little salt. The sire of these hogs is yet living (to be killed soon,) and four years old; his owner, near Suffolk, thinks he will weigh 750 lbs. These are not the hogs for us, however, and although I have a sow of this *stock*, and pure-bred Berkshire stock also, for the manner in which our hogs are raised in this section, I prefer a black Essex boar crossed on our large native woods hogs. To show how breed will tell, however, I have two pigs of common stock, bought at a sale, in a pen adjoining the Jerseys and given the same treatment, from March last to the time killed, 8th December, about the same age as the Jerseys; their weight was 209—179—but the Jerseys consumed about double the corn this fall, when we gave both pens all they would consume *clean*.

Just in this vicinity we raise our own supplies, and our money crops are melons, fruit, cotton and peanuts, (in patches) and a few of us sell some hay. In general it is a neighborhood of one and two-horse farmers, and those of us who own more land than we can procure *labor* to work with any profit or satisfaction, employ white tenants on shares.

Timber men, saw mills, wood chopping, furnish so much job labor, that it is becoming impossible to hire freedmen at any price, by month or year, and our system of farming must of necessity change. Grass and fruits, or trucking, with higher wages and job labor, appear to me the only feasible plan by which we can adapt ourselves to the situation. B.

The Farmer in South Carolina—The Season, &c.

My old Friend, S. Sands, & Son:

I write you to ask for a few numbers of the *Farmer* for distribution. The other day I procured three subscribers in about ten minutes—one old and two new—whose names and dues shall be sent you as soon as I can add to my list. Two days since I presented a number of the *Farmer* to our Grange, with some remarks in its favor, and have sent a few of my own numbers to our overseer to loan out to members. Hence, if not returned, I want the three last numbers to supply their places in my volume.

Since 1826 (I think it was—my record lost) I have never experienced such a fall and winter, so far, as we have had and are continuing to have to this date. In the year alluded to above, there were but few that saved their meat, either from being entirely or much tainted. I lost none, because I was then in the habit of salting down on the day the hogs were slaughtered; and never drew a piece "to cool." Yet I have slid back into the old practice of waiting till the "animal heat gets out." Would, however, prefer to salt in one hour after the hog is cut up, to waiting for the meat to freeze. Although our days are pleasant—very little rain—yet the nights are cold enough to preserve our pork, with the thermometer nearly down to 32°! But with frequent white frosts, I have seen ice not more than a half-dozen mornings, to this date. GEO. SEABORN.

Pendleton, S. C., Dec. 16, '74.

"The True Theory of Farming."

Editors of the American Farmer:

Permit a subscriber to call the attention of "Freedom," the writer of "THE TRUE THEORY OF FARMING," to what appears to the writer, namely: that he is really "*creating a fantasy in order to dispel it.*"

He remarks, page 384 Nov. No.: "I doubt the correctness of the report of Lampadius' experiment;" and yet he quotes on page 412, Dec. No., as follows: "By experiments, as that of Lampadius, heretofore referred to in reference to the waste of lime, and by common experience, it is ascertained that, in general, the waste of soil food is a hundred times greater than the amount secured and *saved* by conversion into plants."

The remarkable ability of *Freedom* in exposing the fallacies of the learned professors of agriculture, and presenting clearly and *sharply* their contradictions as well as his own propositions, will nevertheless fail to shield him from the imprudence of basing an axial proposition upon insufficiently proved premises.

First, Lampadius' experiment consisted in mingling lime in the soil, to 1-19 per cent. of the whole. We are not told whether he thus mingled the soil of one yard, one rood, or one acre, or any other quantity, nor yet to what depth of the soil he added or mingled the lime. But suppose all this had been accurately given, in order that his experiment should have been of any value, as the foundation of a theory, it must be proven that the lime mingled with the soil, was precisely in the very same chemical and mechanical condition when mingled, that the lime constituting the integral portions of the soil with which it was mingled was in, at the time of mingling. The experiment to be of any value must rest upon a demonstration, *that there could not have been any possible difference in the varied proportions* that had advanced to the different stages of chemical and mechanical preparation with that in the soil itself.

But, again, he must demonstrate that he succeeded in incorporating it in the soil, as thoroughly in all its mechanical and chemical relations, as the lime belonging naturally to the soil usually occupied in the soil.

When these exact demonstrations shall have been made, we may admit the result as the basis of a theory, but not till then.

Again, we must be permitted to say to Freedom, that the general and loose remark "common experience" is not admissible as the basis of so sweeping a theory as his No. 2 seems to be preparatory to the introduction of. If he would propound "THE TRUE THEORY OF FARMING," let the axial basis of his propositions be demonstrated results and stubborn facts. We have at present too many of our popularly recognized sciences, based simply on inferences, and cannot consent to tolerate any new ones.

Whilst, therefore, we are pleased with the perspicuity and clearness of Freedom's definitions in general, we are anxious that "THE TRUE THEORY OF FARMING" shall not be built on the baseless fabric of a vision. G. B. S.

Amelia Court House, Va., Dec. 14th, 1874.

The True Theory of Farming—No. 3.

Messrs. Editors of the American Farmer:

In my last, treating of the effects of vegetable manures, left on the soil on which they grew, I intended to say that, *in reference to their supplying fixed mineral food*, which for convenience we will call soil food, the action of the vegetable matter, other than its restoration of what it took out, is mechanical, in the amelioration of the soil, and chemical, in the production of changes in contact with fixed mineral matter. The words here above italicized, were inadvertently left out. Their absence obscures the meaning; and might inspire the impression that I espouse the controversy, as to whether vegetable matter, humus, contributes directly to the nourishment of plants; and that I enter the lists with the negative. The wrangle about this abstruse question, carried on with much ardor, and, by some, with unenviable tact, however possibly useful in scientific display, or even discovery, has no charms for me. To the practical farmer, in the present state of science, it is scarcely more important than the child's query—whether the hen that lays, or she that incubates the egg, is the progeny's mother?

That vegetable matter is useful, and essential to fertility, is beyond doubt. To tell a farmer otherwise is to contradict his intelligent experience. My object is to dispel the confusion as to the *amount of fixed* mineral food that may be returned by restoring a part or all of the produce of a soil to the same.

I have said the replacement of the crop restores precisely what it takes out—not an atom more. It *adds* volatile atmospheric food, and promotes fertility, so long as the soil is supplied with the necessary relative quantity of fixed matters; but it in no way can supply the *waste* of soil food. It is as reasonable to expect agricultural plants to grow in manure heaps, as in a soil deficient in soil food. Experience proves that more soil food is annually wasted than is restored by disintegration of rocks.

Then if we can restore no part of this waste by return of the crops that grew on the same soil, to prevent deterioration and final exhaustion, *importation* is necessary; by which I mean simply that soil food wasted must be brought from another place. It may be from another place in the same field, or across the ocean; but it cannot come from the elements of the atmosphere, whether in or over the soil. Neither we nor the plants can import it from the air, because it does not exist there.

Hence, has arisen the use of artificial fertilizers, as lime and magnesia, burned perhaps from the rocks on the soil, because, without heat, they would not disintegrate and become available as rapidly as these substances were wasted in cultivation; or the commercial sorts, which are for the most part concentrated, and furnish a greater variety of substances. These consist, chiefly, of sulphates, phosphates, nitrates, and chlorides, of lime, potash and magnesia. These salts and iron comprise the substances of soil food, that is, food that can be derived by the plants from no other source than through their roots from the soil, that are known to be essential to the existence of agricultural plants. To perpetuate fertility all these must always be present to the roots of every plant in a soluble condition. I might say in solution, for unless so soluble that the roots may dissolve and absorb them, they are useless. If one be absent, or all be present, and one be insoluble, it is fatal to fertility, no matter how much volatile matter may be present. If these are furnished by nature, as they are in all virgin fertile soils, they are the elements of fertility. But if the same, without any and all of which the soil is barren, be applied *artificially*, it is said they exhaust.

So the orthodox theory of exhaustion, in reference to artificial fertilizers, comes to this—that the soil is sterile *without* them, and, if artificially applied, *exhausted with* them.

This absurdity is one of the charges I bring against the agricultural literature, the so-called "Science of Agriculture," of this day. It is guilty of this thing precisely. Its champions may plead tradition, as Johnston has, in their favor; but the stern judgment of a ruined people will never pardon the revival of a superstition, by pretended confirmation of science, which, if accepted, inevitably results in universal calamity.

The farmers of past ages possessed little or no knowledge of the relations of soil, or atmospheric food, to the growth of plants. But they knew, although the atmosphere was daily renewed by the winds, that a soil would cease by degrees to grow its wonted abundance. This, doubtless, led them to suppose there was something lacking in the soil. They found that lime would often revive fertility, and that it would apparently lose its influence on repeated applications, after many years, till at length it would fail entirely to remove the cause of diminution in the crops. So far as they had advanced, they knew not but lime and sand, or clay, would produce plants. They knew not the necessity of certain other substances in addition to the lime; and so conceived that there was a charm about lime that promoted fertility for a time, and in some inscrutable way, like other apparent benefits in human life, while it worked present good, brought future evil.

When potash was tried with benefit, and it in time also failed, the same was believed of it. Phosphorus, sulphur, and magnesia, were tried, with the same result, because as one was added others were washed away. Although they had thus severally applied all these substances with apparent success, they finally *severally* failed. It is not, therefore, singular that a tradition arose, akin to superstition, among these ignorant empirics, that these substances fertilized, for a time, and finally exhausted the soil. This is Johnston's universal ascription of exhaustion by lime, &c. Had they known that all these substances must ever be present in solution for absorption into the roots; that the absence of one was fatal; and that they existed in but small quantities, even in fertile virgin soils; and that they were subject to great waste in cultivation,—if the tradition had arisen at all, it would have assumed the shape

of truth,—that the *absence* of some of these substances instead of their *presence* produced sterility.

The champions of the so-called theory of *exhaustion by fertilization*, believe, like little children, or affect to believe, everything that is told them in relation to the unenlightened experience of farmers; and they are thus led to the propagation of ignorant phantasms. Instructed in learning, they make a desperate battle on the side of the multitude, and prostitute the learning of centuries, to sustain legends of remote ages. In the ungrateful contest, like giants struggling in a morass, every effort sinks them deeper.

The propensity of the adult human mind to accept ready-made impressions, which is only excusable in children who have no other means of acquiring knowledge; and to explain the reasons of supposed phenomena, without inquiring into the fact, is said to have been remarkably displayed by Dr. Franklin propounding to the French philosophers the question—"Why the introduction of a live fish into a tub of water did not add the weight of the fish to the vessel's contents?" The erudition discovered in explaining the reasons of the assumed phenomenon, is now eclipsed by the spontaneous explosion of learning, in the explanation as to *how plant food exhausts the soil!* After all, it staggers belief, unless we can also believe, (and this they have not pressed upon our credulity,) that soil plant food, in reach of the plants, will starve them, and if we do not put it in reach, they will flourish and grow fat on air. I can as well believe that indispensable food, in the best possible condition for digestion, placed in the trough for domestic animals, or on the table for men, would starve instead of feasting them.

But when we would inquire into the fact, we are confronted by a ubiquitous estoppel on every hand. The legends have fixed our fate. Johnston and his followers assume the facts, admitting, even urging, they came by tradition; and require us to stand still—and listen to their everlasting explanations of *how* the traditions are consistent with science; and how, with common sense.

It is vain to urge, that, if consistent with science, in which we are not sufficiently versed to judge—it is opposed to common sense. For they come forked-armed with both, and demand abject surrender.

Johnston, the leader of this ubiquitous army, transfixes us, as follows: "The exhaustive effects of lime have been remarked from the earliest times"—then follows a correct explanation of how lime enriches the soil to a degree beyond the results of any other known substance; and then the complacent summing up that, "By this mode of action," (enriching the soil,) "therefore arises the exhaustion which universal experience has ascribed to the use of lime."

The beauty of this splendid period would be little marred, and it would be made almost correct by striking out the word "experience" and inserting "error"—so as to read "therefore arises the exhaustion which universal *error* has ascribed to the use of lime."

The Professor continues that lime "causes larger crops to grow for a *certain number* of years," (but fails to give the numerals) "after which the produce diminishes, till at length it becomes less than before the lime was applied." Now we take it from his own statements, that the absence of the lime involved the absence of the "larger crops," and it does not appear to us that both its presence and absence diminished the crops. Our experience and our common sense teach that the diminution he charges by covert innuendo, on the lime, would have commenced as well, and sooner, without the lime; for in its absence no lease of "larger crops" would have been enjoyed. Indeed, according to his own showing, it had already commenced before the lime was applied, else there had been no need of it, and no good result could have followed its application. Besides the race of diminution to the goal of sterility, starting from already diminished crops, in the absence of lime, would have been shorter and more irresistible, than starting from the "larger crops" produced by the lime.

If his fallacious web of words implies anything at all it is this—that the author supposed that plants could live and thrive on lime, without a change of diet, for *a certain number of years*, and then, that satiety and disgust would ensue, and deterioration follow.

But now we are impaled on the "common sense" horn; for the Professor continues—"without reference to the chemical processes, a common sense view of the question sufficiently explains how the exhaustion arises." "It is conceded," he continues, "that the crops we grow *rob* the soil both of organic and inorganic matter." They have substituted the word "*exhaust*" for "fertilize" in the elaboration of their theory of exhaustion. And now comes the word "rob," in a new dress, no kin to the old. To rob, in all enlightened ages and countries, has been considered an illegitimate, unlawful and unnatural business. In times of famine, or threatened ruin to communities, as we have seen sweep over districts of our own loved country, with such alarming circumstances as to drive whole communities from the endearments of palatial homes to the inhospitable frontiers of the West, among strangers, in sight of savage tribes, to seek bread and raiment; if an angel benefactor should appear in a community so threatened, and, armed with God-like power, enter the depleted garners and add to every five pounds ninety-five pounds of grain; nothing, it seems to us, but the deepest infidelity and most atrocious profanity would attach the epithet of *robbery* to the divine mission.

Now, this is precisely the appointed annual mission of the life-giving plants; and when it shall cease the whole earth will become barren as adamant, and all flesh must perish.

Their mission is to gather from the winds and add to the soil about ninety-five pounds of bread and fibre for every five pounds of soil-food they use (not waste) in making the same; and, so far from robbing the soil of any, they leave it all on, and in the soil.

They do not aid the escape of any through the channels of waste. As they spread their arms above ground, snatching the nourishment man must have from the winds, so they extend their roots in all directions in the soil in quest of the food he must have from the bosom of the earth. And so far from aiding the escape of any of these, they weave an elaborate net work, binding more firmly the soil to resist destructive forces,

absorbing the food as it moves in solution, subject to wash away; fixing it by assimilation into their own bodies, with nearly a hundred fold added from the atmosphere, thus enriching the soil and feeding and clothing man. They, who are thus ever-watching sentinels, holding in their close embrace fertilizing matter, nay, the soil itself, shielding it from the floods; ever adding to its store from the winds of heaven; and who die annually, that we we may live, are Johnston's "conceded" robbers of the soil *they save.*

This "conceded" robbery is the inspiration of the "common sense" inhabiting the brain of James F. W. Johnston, M. A., F. R. S. S., and E., Fellow of the Geographical and Chemical Societies; Honorary Member of the Royal Agricultural Society; Foreign Member of the Royal Swedish Academy, &c., &c.; Chemist to the Agricultural Chemistry Association of Scotland; Reader in Chemistry and Mineralogy in the University of Durham, and Author of Lectures on Agricultural Chemistry and Geology, Durham, England. This flaming address and string of titles, I find recorded between the first and second chapters of the title page of the second book of lectures. I give it in full that farmers may know how to correspond with him; that I may not seem disposed to deprive him of honors; and because it is a better *index* to the character and the contents of the book than elsewhere to be found. And so the same opinion of plants that fills the Professor's brain may prevail about Durham, and render his miasmatic teaching in all the countries that have burdened his name with honors, or whenever the flickering light of his satellites dazzles the public vision even in our own country. But I trust it will never find residence in the brain of the farmers on whose intelligence and success hangs the fate of mankind. FREEDOM.

[TO BE CONTINUED.]

Trucking.

Messrs. Editors American Farmer:

Garden farming in tidewater Virginia has grown, since the war, into a very large business, and for reasons connected with the profession, to be presently mentioned, the trucking area proper is confined for the most part to belts of land near our rivers and creeks, extending not more than twenty to thirty miles from the shipping port of Norfolk city.

The immense amount of manures to be hauled to the land, with the weight and bulk of the green crops produced; their perishable character; the fluctation in prices North, depending often on the supply and quality, imperatively *require the garden farmer to be in easy and constant communication* with his Northern commission merchant and with water communication near his land. Where several thousand loads of manures and trucks are to be hauled to and from the farm, in a limited time, one can readily comprehend the inconvenience and difficulty, without considering the time and expense incurred, by attempting to grow green crops a few miles from the water for a distant market. Your readers who have in their libraries "Henderson's Gardening for Profit," have, doubtless, been surprised at the immense amount of commercial manures and stable manure he uses; and while our truckers do not crop it *as closely* as he does, (using nearly all manures broadcast,) they plant their truck crops in drills and hills exclusively.

The truckers use, almost without exception, stable manure from Baltimore, Washington and Petersburg. The livery stables of Norfolk supply what they can to those near by,—and a livery man recently told me that his manure for some years has been under annual contract to a trucker for $700 a year, and twice paid his rent.

The truckers have two months of comparative leisure—during August and September. In October they begin work, breaking up all lands after they have carefully harvested the spontaneous crab-grass hay crop. Just here I may be permitted to say, that they find this a very *valuable crop*, and after the Irish Potatoes, Early Peas (whose vines furnish, when well cured, an excellent nourishing hay, of which their horses are very fond,) Tomatoes and Early Cabbage, in fact any heavily manured crop, that can be removed in time, the land is leveled, harrowed and put in order for the hay; weeds are watched for and pulled by hand, so that the crab grass, in favorable summers like the past, with frequent showers, makes a splendid growth for early fall cutting, just when the seed are maturing. They expect to get the major part of their manures hauled and composted with rich virgin soil, and their lands all broken before the new year.

Manure turning, so as to get it well broken and fine, is an important consideration, and requires much labor. There are few crops, except marrowfat peas, sown before the new year, and while none expect to realize much profit from this crop, so easily and cheaply grown, it furnishes labor for *picking hands* at a time when every trucker is anxious to keep in his employ all he can get for other more profitable crops. They select light—very light, sandy soil, use but little guano, not more than three to five pounds per 100 yards, in drills drawn 6 to 8 feet apart, if other crops are to go between, sprinkle in the compost, cover with plow, open a furrow, sow the peas, and while some cover with rakes, others use the small turn plow, held at a proper angle, covering very nicely, rather deeper than the early pea, as they, planted in December, have to stand all the snows and freezes of winter. Their experience with the marrowfat pea is, that if too much guano or other stimulating manure is used the result will be like your correspondent's complaint of his sweeet potatoes, too much vine, too late in bearing for profit; and just here comes in the necessity of a personal practical experience, not only in growing truck crops, but an experience with the soil on which *he is operating* as regards its capacity, so to speak, its *vis vitae* natural must be approximately understood, and earliness of maturity in green truck crops is the main point to be considered. During the months of January and February the heaviest work of the truckers is *preparing* and *drilling* manures, and attention to hot beds is to be accomplished, and they work early and late,—taking advantage of every hour, when driven by rain and snow from the fields, to put in order their barrels and packages for shipping time.

While Mr. Henderson places $3,000 as the necessary capital to work with success a Jersey

garden of five acres only, and employs a laborer for every acre cultivated, our Western Branch truckers have, some of them, expressed the opinion that they can manage very well with $100 per acre. This will give $10,000 for one hundred acres in trucks, and the number of horses about ten, and of regular hands about a dozen, exclusive of occasional job hands by the day and the pickers at harvest time. These regular hands drill the manure, plant and cultivate the crops, and haul them to the boats. The number of hot-bed sash employed, the number of acres of strawberries to be marketed, not included in the acreage in trucks, and other circumstances as to the extent of this or that crop requiring more labor than some others, may influence the estimates here made, which are not intended to be accurate.

Our truckers generally prefer strong, large horses, and use tumbler or turn-up carts, made in their vicinity, which cost from $50 to $60, and it is their especial pride every season for the *Boss* to sport a new top-buggy and pretty fast horse to take him on his daily visit to town, when he will talk to you about *tomats* and *cucs* in prospectu. NANSEMOND.

Exchange, Va.

Mr. Coffin's Crop of Orchard Grass and Oats.

Messrs. Editors of the American Farmer:

In answer to the inquiry about the quantity of seeds sown for the crop heretofore referred to, I would say that we sowed one and a half bushels of oats and two bushels of orchard grass to the acre. The oats were a white kind called the Surprise, which has a stiff straw. The yield per acre I cannot give, as it went in with the other lots, but the weight of all my oats of that variety that season was 42 lbs. to the bushel.

Yours truly, CHAS. E. COFFIN.

Muirkirk, Md. Dec. 23d, 1874.

The Late Maryland State Fair.

Messrs. Editors American Farmer:

I was in hopes an abler pen than mine would proclaim the praises of the "Maryland State Agricultural Fair" for 1874, which, as an agricultural exhibition, was a greater humbug than Barnum ever pretended to be. Of the large numbers who visited the fair grounds, not over fifty persons came [daily?] where the implements were exhibited. I think I have over-estimated, and believe Col. Underhill, Joshua Thomas and Mr. Mott will agree with me in my estimate. I would like to hear from them, for I do not wish to misrepresent. I confess I was green when I went to the Fair as an exhibitor, but I am happy to say I came away a wiser man.

My idea was that Maryland had made such progress in agricultural science that a premium awarded at its State Fair would be a recommendation worthy to be sought after, and that I should meet a large number of her best farmers, who would examine and discuss the merits and demerits of the various implements exhibited. When the committee of two who were to award premiums in the implement department made their appearance, I enquired of my brother exhibitors who they were; the invariable answer was, "I do not know;" and the general expression was, that exhibitors could not expect much from such a committee.

Coming from a sister State, I concluded to keep my mouth shut and ears open. When the committee of two were examining Mr. Durborow's plows, Mr. Mathias was explaining to them the superior quality of iron and steel of which they were made. No. 1 of committee said he knew all about it; that he had worked all kinds of iron. I concluded that No. 1 was a blacksmith. After awhile they came to the Montgomery Fan, cleaning some very filthy wheat. No. 2 of committee looked on in astonishment; said he had wheat like that and did not think a fan had ever been made that would do such work as that was doing. I set No. 2 down for a farmer, and a very poor one, if he raised as filthy wheat as he saw the fan cleaning. After awhile they came to the "Granger" plow or cultivator I was exhibiting. I told them that a man with two horses could cultivate ten acres of corn per day, and do it better than any implement I had ever seen; that by changing the front shovel on the right hand beam to the left, and the left to the right, the front shovel would throw the dirt from the corn and the rear shovels would throw it back; and when the corn was large enough to receive the dirt, to change the front shovels so that all four shovels would throw the dirt to the corn; that the plowman had to regulate the depth by the screw passing through the shovel posts; that if the shovels were set to run six inches deep and the handles were drawn closely together it would cover up every stalk of corn that was not over eighteen inches high; that it was equally valuable for cultivating all kinds of trucks, tobacco, &c. Late in the evening, one of the committee men told me my cultivator had taken a premium. I asked what premium? He replied, I do not know.

Now, Messrs. Editors, I think you will agree with me in saying that the "Granger" did not come under class G, but was entitled and ought to have received a discretionary premium. There was a wheel cultivator that came under class G which was awarded a premium of five dollars. That cultivator could not throw the dirt to or from the row; was 80 to 100 lbs. heavier than the "Granger," and could only root up the ground.

The "Granger" cultivator was awarded the *Enormous Premium of Three Dollars! Liberal Committee! Magnanimous Agricultural Society of Maryland!* to give the very large premium of three dollars to the simplest and the cheapest implement ever exhibited at its Fair for the character and amount of work it would do, and to give the pitiful and insignificant sum of several hundred dollars to a fast horse!

Of the few visitors who came near the fine collections of Underhill, Thomas and Mott and others, five or six stopped to look at Thomas' Reapers and Mowers. The Granger occupying a part of his ground, it attracted their attention for a moment, but when I began to explain the *modus operandi*, they quickly told me they did not have time to stop; that they only came to see the races.

Before you advertise another such affair at Pimlico, let the farmers—the true men of the

State—hold a fair at some more eligible point, which shall represent the agricultural interest of both farmers and inventors.

Messrs. Editors, I send you an improved Granger cultivator. I want you to give it a fair trial, and then tell the readers of the *American Farmer* what you think of it. All I ask for it is a fair trial, and when that can be had I will match it against any implement ever invented.

Northumberland Co., Va., 1874. R. L. HARVEY.

[We have taken the liberty of omitting some portion of the remarks of our correspondent, and of modifying others; yet, as he makes his complaints over his own signature, we cannot refuse to give him a hearing; but if any of our readers think his letter is designed rather as an advertisement of the implement than as a complaint against the management of affairs at Pimlico, we can only say that Mr. Harvey, we believe, is sincere in his enthusiasm concerning this cultivator, and that his advertisement of it occupies its legitimate place in another part of the *Farmer*. His grievance, however, of the unappreciated merits of his implement by inefficient judges, is the old story, which will be uttered so long as the present bad system continues.

We may here state that the plan practiced at Pimlico, of giving premiums for implements and machines not in operation, and between different kinds of which no comparison can be made, is one to which we have before now referred as totally ineffective to serving any good purpose, and President Davis has signified his intention of remedying the same; and, we believe, is now in correspondence with Messrs. Poole & Hunt, of this city, concerning a motor. It would be far better to give a bonus to each of our implement men to remunerate them for the expense attending liberal displays, and discretionary gratuities to all exhibitors of single machines possessing novel or meritorious character, instead of the attempted plan of equitable distribution, which satisfies no one, and strips the awards of all significance.

The "Granger" cultivator sent us for trial has come to hand, and will have a fair trial as soon as practicable. It is probable that we will turn it over to one of our Baltimore county clubs, either for alternate use among its members or to be tested at a trial of instruments designed to be held in early spring. The endorsement of this practical club will be one carrying much weight.

Our attention having been called to this subject, it gives us the opportunity of saying that, to our mind, one of the features of our last Fair most worthy of reprobation, and one which we were most surprised to see, was the toleration on the grounds, for the first time, as we believe, in the history of a State society in Maryland, of the sharpers' games, "wheels of fortune," &c., which abounded, and which seemed well patronized by the verdant, who certainly ought here to have been secured against such temptations and consequent losses.—*Eds. A. F.*]

Live Stock.

Why People do not go into Sheep-Raising.

Messrs. Editors American Farmer:

The following article, from a little *sharp talk* in the *National Live Stock Journal*, will doubtless be of interest to many of your readers. There are a great many who would engage in sheep-husbandry, but they are afraid that they do not know how to manage them. The main principle of keeping sheep can be learned easier than a great many imagine. They might keep sheep, or there are men now who have been in the business for five or ten years, and they can still learn a few "fancy touches," about managing sheep. If any one wishes to commence with sheep, let him take two or three good agricultural papers, and by the time the different seasons come around, he will know principally what is required. The different grades of wool can only be learned by experience. * * * * *

Why people do not go into sheep-raising, as given by the *Journal*, is, that they think it requires a high order of intelligence to handle them, and because they fancy that some special training is necessary. The form of the carcass, the peculiarity of the wool and other matters, are to be considered, while in cattle the only thing looked at is the *form*, and in many cases pedigree is substituted for that.

It does not take a very large measure of brains, or the exercise of them if a man had a bushel, to sit in the window of a corn crib and toss corn to cattle on one side and pigs on the other, and sell them when fat, (or when the crib is emptied,) for just what they will bring; but the man who handles a large flock of sheep, and keeps them up to a good standard, or improves upon it, must possess and exercise some judgment and intellect. Whatever *genius* may be required to enable a man to take rank as a *breeder* of sheep to be used in the improvement of the flocks of others, or of a nation, I am satisfied that every farmer has sufficient judgment, if he will cultivate and exercise this quality, to manage a flock of sheep for *common farm purposes*, with good success. Of course some special training, if a man has it, is desirable, but it is not absolutely necessary. Sheep cost but little, and the loss of one is not a serious matter, like the loss of a short-horn, or a horse. If they drop away a little from the standard, the purchase and use of rams selected from the flocks of leading breeders will bring them back to the point, and the frequent introduction of rams from the flocks of professional breeders, who make the raising of stock to be subsequently used for breeding purposes a specialty, should never be neglected. No matter

how little the farmer may know of sheep in the first instance, or how unintelligible may be to him the distinctions which professional sheepmen are able to discover in the form and fleece of different individuals and flocks, he can soon learn enough of these matters to handle his sheep with good results. Soon after he gets a small flock, he will begin to perceive differences in the shape and in the character of the wool of different animals of his flock. And it will not be long before he has their characteristics fixed in his own mind, when he will have a standard by which to estimate the sheep he meets with elsewhere. He will look at them as better or worse, in this point or that, than his own sheep at home, and will soon acquire, *under the instruction of his flock*, all the special training which he needs; or, to speak more accurately, which his mental qualities will enable him to acquire. But while a man does not need genius to handle sheep for common farm purposes, he must have *patience*. Sheep cannot be made a means of speculation, like cattle may be, but returns come in slowly. They do not enrich their owner like striking a lucky vein in a gold mine, but as the water wears away the marble, *drop by drop*.

There are large farms in West Virginia, partly lying idle, which could be made to pay by keeping sheep. Mr. C. H. Beall, of Brooke Co., one of the largest wool growers in the State, owns 3,000 head of sheep. In the summer he will rent pasture all around him for miles, letting his own grow up for winter pasture. His wool last year brought him the snug little sum of $7,000. By allowing his pasture to rest during the summer, his sheep do not require more than two-thirds as much feed during the winter, and his sheep always look well. He is breeding the present fall about 1,350 ewes. I have seen 105 ewes in one field, with 193 lambs belonging to them. He does this by paying attention to his ewes. I suppose his income by his sheep would amount to $10,000. I give the above facts and figures to show some of our farmers who have four or five, or probably one thousand acres, partly grown up in pine bushes, with eight or ten head of cattle running over nearly the whole farm. Instead of letting the land run wild, would not it pay better to have four or five hundred head of sheep, bringing in an income of two or three thousand dollars per year? Good grade ewes could be bought for from three to six dollars per head—lambs are worth two and three dollars per head, and they can be improved every year by using a thoroughbred ram. W. C. RIDGELY.

Bethany, Brooke Co., W. Va., Dec. 1874.

Pure-bred Merino Sheep and what can be done with the Culls of a Good Flock.

Messrs. Editors American Farmer:

Through the correspondence of a merchant doing business in Baltimore, and who is interested in behalf of the farmers in Maryland and Virginia, I have been prompted to again occupy more space in your columns. Many are unwilling to purchase high-priced sheep selected from a well-established flock, and we do not care to induce them to part with their money; yet there is much labor on a farm where the old routine of grain and tobacco is still exhausting land and owners, while both want rest and recruiting up. Among the best flocks of Merino sheep there are always a few animals of mixed ages that (from various causes we will not stop to relate) are there termed culls of the flock. These consist of both sexes and are often the produce of the choice animals of the flock; and as the careful and ambitious breeder has especial objects in view, and according to his fixed limits he cannot keep all of his sheep, but must annually sell a part of the flock, therefore he makes it to the purchaser's interest to buy those that he wants to sell. Now, these are of mixed or all ages and both sexes, and as many as from 10 to 20 or 30 of these can be had for what he would ask for a single pair of his select animals. Then certainly there is ample room for those who do not wish to pay a fancy price. Out of these he might lose two or three, as to number, &c., yet they have not cost him much, although they are the produce of costly animals. From this small purchase he will grow some valuable animals, and will also wonderfully improve his old home flock, which he will find a slow business if he depends on ordinary flocks, even if he buys the best of them. When your farmers attend to this they will invest but little money, yet they will improve their home flocks, their farm and income, that will surprise them. The change to another farm often develops them and their offspring to a wonderful extent. Many of these, of both sexes, often prove to be among our most valuable breeders! Nature's laws here open an entire volume, and your correspondent will close this.

Brownsville, Pa. JOHN S. GOE.

National Short-Horn Convention.

The third annual convention of the National Short-horn Breeders' Association commenced at Springfield, Ill., on Dec. 2d. The attendance was excellent and fairly representative. President Stevenson opened the meeting with an eloquent address showing the advantages we possess and the rapidity with which we are developing them. An essay on the principles of breeding by W. R. Duncan, of Ill., followed. Milton Briggs, of Iowa, read an essay on Short-horns. President Stevenson followed with an essay on breeding as a science.

At the election, J. H. Pickerell, of Illinois, was elected President for the next two years.

A committee was appointed to collect statistics of the Short-horn cattle in the country; and another committee was appointed to draft an address to the breeders of the United States, urging upon them the object of the Association.

Mr. Bailey, of New York, read a paper on color; Dr. Sprague, of Iowa, one on barrenness; Mr. Pickerell, one on fancies and prejudices vs. reality and usefulness; Mr. Stewart, of New York, on the philosophy of cattle breeding, etc.

A resolution was passed that it is not within the province of the Association to publish a herd book or lay down arbitrary rules for the guidance of the proprietors or editors of herd books, which are private property; and that the constant discussion of the subject of recording pedigrees is productive of harm, by interfering with the rights of individuals.

Toronto, Canada, was selected as the place for the next meeting, and Dec. 2d. fixed upon as the time.

Sheep in Virginia.

A correspondent in Culpeper Co., Va., in a private note, says on this subject:

"As to sheep, I never lose an opportunity to tell my people that they are the lever that is to raise this county to the highest state of prosperity. Many are beginning to see the great advantage of them, and more farmers are keeping them than formerly. Flocks are springing up here and there all over the county. When we begin to appreciate the great service sheep are to do us, away goes the dog, and we will have an effective if not popular dog law. Here lies the great trouble—the dog. But let two-thirds of us keep sheep, be it ever so few, and then we can in a measure overcome the dogs."

Sale of Norman and Percheron Horses.

Our exchanges report the following results of the sale of Messrs. Fullington at Irwinton, O.:—Babe, 5 years, Norman, $2,675; Prince Imperial, 5 years, Norman, $2,605; Niger, 4 years, Norman, $2,050; Prince Napoleon, 5 years, Percheron, $2,100; Bismarck, 3 years, Percheron, $3,075; Le Havre, 5 years, Percheron, $2,030; Sampson, Norman, $1,800.

Agricultural Calendar.

Work for the Month—January.

To the farmer there is now usually time for retrospection as well as for looking forward. To do both is a duty he ought not to neglect.—Where failures have come in the performance of his work in the past, an examination into their causes is the part of wisdom; whilst to adjust himself, his means and resources, so as to avoid like errors in the future, is a necessity to success in his calling. At this season, too, it becomes the prudent landholder to settle upon a fixed system for the year,—and to resolve to adhere to it—not with blind dogmatism, but as far as no extraordinary interferences prevent. Plans well laid and strictly followed out to their maturation are in most cases more profitable than to resort to the expedients of the hour. Above all do not attempt too much, and begin to do nothing that you cannot do well. One of the things which every farmer ought to do, and which is better done now than at any other period, is to

Open an Account Book.—In the absence of any well-devised plan of keeping accounts, at least prepare to note down every item of expenditure on, and receipts from, the farm. Take, also, at the beginning and end of the year an inventory of stock, machines, tools, crops on hand and unsold, and all other assets. This so much neglected keeping of an account would seem to be, and is, as useful to the farmer as it is to the merchant, and we seek to impress its importance upon our readers at this season as one of the things which they really cannot afford to neglect. Once adopted, in howsoever a simple form, we believe it will be found so much to conduce to the satisfaction of conducting farming operations that its continuance will be certain.

Plowing.—Near us, up to the time we write, (Dec. 23,) there has been little weather when this work could not be done. Tenacious soils, it is generally conceded, are improved in their mechanical condition by freezings and thawings. Another benefit from this practice is said to be in the liberation from insoluble combinations of materials fit for plant food, which are set free by the action of frosts. Many larvæ and perfect insects are also destroyed by the exposure to the weather.

Making Manure.—Many opportunities exist for this work which ought to be secured. Substances which are wasting on and about the farm, and doing absolute injury, can be so worked up in your stables, yards and compost heaps as to add largely to your supplies of manure. It is a good method to mix as far and as often as you can the various kinds of manure together,—from the horse and cow stables, pig pens, &c. Add from time to time a dusting of plaster, and if practicable turn the whole over once or twice.

Hen Manure is probably the most valuable of any kind produced on the farm, and is deserving of careful protection. Either keep by itself under a shed protected from the weather, or mix it with coal ashes or dry earth. For use in the garden it is highly effective.

Surface Drains.—Look after these occasionally, to see that they do not become filled up and cause the accumulation of water about the roots of the winter grain.

Live Stock.—This is a season especially severe upon all kinds of domestic animals, and the man who takes extra care that they do not suffer from the inclemencies of the weather, from irregular or insufficient feeding, and lack of other attention, not only acts in accordance with humanity, but also with self-interest. *Milch Cows* ought to have begun the winter in good condition, as it is far easier to keep them in that condition than, once run down, to restore them to it. Warm, light and well-ventilated stables are as essential to their health and well-doing as nutritious and palatable food. Good hay, nicely cured fodder, an occasional mess of roots, a daily ration of bran and corn meal, will not fail to keep them up in health and strength. Of roots, whether turnips, ruta-bagas, beets, or carrots, their value is not so much in their nutritive qualities as in their alterative effects, though as aids to milk production they are all valuable. *Working Animals.*—Do not allow your horses and mules to be exposed more in bad weather than can be avoided. See that they are fed regularly and sufficiently, but do not allow them to be overfed. Exercise daily if practicable, but when they are unused cut off a portion of their grain allowance. Their stalls should be well bedded and properly cleaned, and the animals well rubbed down at least once daily. Nothing

is better than an occasional mess of carrots, and once in a while a bran mash acts well. Do not allow regular watering to be neglected. *Cows and Heifers in calf and Brood Mares* need liberal supplies, not of stimulating, but of nourishing food. They should not be allowed to become fat, but the drain upon their systems demands ample rations. Keep *young cattle and colts* growing and thriving; when once permitted to become bare-ribbed and meagre, they are hard to again bring up. Give all your stock some shelter from cold rains and winds. *Swine and Sheep.*—The latter ought to be put into the fields when it is dry. Do not neglect to provide salt accessible to them. Hogs ought to have dry and warm pens, with an abundance of rough material for bedding. Clean water is a necessity for them, and ashes, charcoal or rotten wood should be placed within their reach. *Poultry* need a warm, dry and clean house. Vary their food as a condition necessary for obtaining eggs at this season, giving due proportions of vegetable and animal.

Tobacco Beds.—The earlier stuff for burning is prepared the better, and as soon as may be burn over and make ready for sowing. See in Major Ragland's article for some suggestions on this subject.

We are promised by an experienced friend in Virginia, for early use, a paper for the *Farmer* on *Cutting, Housing, Curing and Preparing Tobacco for Market.*

As the season advances we hope to make these monthly hints more useful, and full in every department.

Vegetable Garden—January.

In this latitude not much active work is done in the garden until after this month, though in many quarters where the *Farmer* goes many of the hardy crops not wintered over will be put in the ground. Material for *manure making*, leaves, muck, road scrapings, the refuse from the garden itself, the slops from the house, all ought to be carefully husbanded to increase the size and value of your compost heaps. *Hot beds* ought at once to be made ready for use, glass mended, wood-work painted, mats and shutters put in repair, soil prepared, &c. *Tools* ought to be put in good order, and sharpened and wanting pieces replaced before it is time for use. *Seeds* ought to be gotten ready. Trust none of whose origin or age you are uncertain. Such as you need from the Seedsman, make a list of and order early. Stick to well tried kinds for your main crops, but venture a little on new kinds. There do not seem to be many claimants on public favor so far this season, in the way of novelties. *Poles* for beans, brush for peas, ought now to be made ready for future use, and everything done now which will facilitate out of door work when the weather will permit.

Foreign Trade of Baltimore.

It will be gratifying to the friends of our city to know that the *increase* in *exports* to foreign countries, from the port of Baltimore, in the last fiscal year, was $8,272,550 over the previous year; of course this increase is made up mainly of agricultural products. The increase in our *imports* for the same period was but $14,523.

The Dairy.

Discussion on the Milk Question.

The Mass. Board of Agriculture held a meeting on 1st ult. at Westfield, Mass., which the *Plowman* says was a large and enthusiastic gathering of the farmers of New England. Among the distinguished men present were Prof. L. B. Arnold, Marshall P. Wilder, Geo. B. Loring, Paul A. Chadbourne, Secretary Flint, Prof. Stockbridge, Dr. Sturtevant and others. The exercises began with an instructive and interesting lecture by Prof. Arnold, Secretary of N. Y. Dairyman's Association, an abstract of which we give below, and expect to follow it up with discussions upon other subjects of deep importance. Hon. Marshall Wilder, was called to the chair.

Prof. *Arnold*, of Rochester, N. Y., a man of much research on the subject of milk, and one of the lecturers at Cornell University being introduced, said his theme was milk—he at first defined and analyzed milk: said that the ratio of cows to the population of the country was about 30 per cent; thought that the annual quantity of milk per cow had slightly increased in the eastern States; and was sure that the price of butter and cheese had doubled since he first began to manufacture, and that dairying had therefore come to the front in agricultural enterprises. He said it was rare to find two cows that gave the same quantities of milk, but the average analysis showed 87 parts water and 13 parts solids. Speaking of the milking process he commended the expert milker, who improves his opportunity when the cow first relaxes the lacteal glands. The fatty or creamy portions of milk received from him large consideration. Hitherto, animal heat, which is the same as animal odor, or oil, has been imperfectly understood, and much disappointment and loss has been the result. By careful observation it can be shown that the volatile oil in milk becomes inodorous at 35 degrees. Heating the milk throws off this oil, and heating it to 130 or 140 kills the germs of fermentation. Filtering the milk through charcoal also takes out most of the odor or fermentatious matter. The fermentation of milk is not a putrefying process as we use it in regard to flesh. It is rather an absorption of aroma from foods or of taints and odors from contiguous objects, which causes it to sour and coagulate easily or spontaneously. The temperature of the animal, drinking stagnant water and various other things, stimulate the fermenting germs. New milk makes strong and rich cheese, because of the quick breaking down of the cheesy matter before the cream has had a chance to rise. The drinking of fermented milk induces bowel complaints, but its effect when made into cheese has not been noticed. Bitter or poisonous cheese is the result of poor fermentation. Milk is full of fatty or buttery globules of various sizes, each globule enclosed in a sack, which heat throws up rapidly and

churning breaks. Milk at 60 degrees is the most fortunate temperature for the raising of cream.

Light and air, he said, hastens organic changes in milk. A dim, religious light and a moist air are most favorable for cheese and butter. Milk can be skimmed twice and then be made into cheese if only some other oleaginous matter is supplied. Heating the whey to 170 degrees will bring out all the butter, but cheese will not cure if all the fatty matter is removed, and none supplied. Fat is a powerful stimulant to the fermenting germs, and hence the necessity of a supply. The removing of three and one-half pounds of butter from 100 pounds of milk will not materially affect the cheese, if only one pound of oleaginous matter be added.* One objection to the oleaginous matter is the difficulty of distributing it evenly. Grass, he said, was the best cattle food, steamed food came next, and, considering the cost, wheat and rye bran was more profitable and safer than corn. The higher the feed the larger the fatty globules in the milk. The æration of milk was considered essential to the dispersion of taint. Wire screens in the top of the milk cans were commended, and one milkman of experience said he had made a small awl hole in his can covers. The mystery of rennets was also discussed. Calves' rennet cured by drying and salting, is most common, but pigs' rennet is the most powerful, and lambs' the weakest. When butter and cheese are both made from milk, double the rennet is required, and a damper and higher temperature is needed. The reason why so little cheese is made in winter is that cheese made on hay is difficult to cure. The lecturer predicted higher prices for cheese, next spring, because of the short manufacture, the past season.

[* A manufactury of cheese from skimmed milk upon the principle here indicated is in successful operation in N. York, a description of which we may give in a future No.—*Ed. A. Far.*]

Washing and Working Butter.

Messrs. Editors American Farmer:

I have for sometime past, adopted a plan for washing and working butter, which has proved very satisfactory to me, and I thought you might like to have it, for the benefit of the readers of your valuable paper.

Take the butter from the churn, into cold water, (not ice-water,) then work it as little as possible, salt it, and let it stand for about four hours; then give it a good working and it will be ready for use. L. S. . . . . .

Sandy Spring, Md.

The Cotton Product

Of 1874, as estimated by the cotton growers in their returns to the Department of Agriculture, somewhat exceeds three and a half millions of bales. The yield per acre is reported less than in 1873 in most of the States. The weather for ripening and gathering the top crop has been very favorable. The reports are nearly unanimous in stating that the proportion of lint to seed is large.

Horticulture.

Interesting Horticultural Features.

Mr. R. W. L. Rasin, the very efficient treasurer of the Maryland Horticultural Society, to whose business-like management much of the success of its initial exhibition last September was due, is himself an enthusiastic amateur horticulturist. On his handsome place on the Maiden's Choice road, near this city, there are one or two features well worthy of notice, as unique in this vicinity.

Two specimens of rock work are especially conspicuous for their beauty and tasteful character. They are not in any sense imitations of nature, and were evidently not designed to be; but they are judiciously constructed with a degree of elegance rarely seen in compositions of this style. The material seems to be slag from iron and copper furnaces, and resembling lava of various tints and features; the effect produced, without any ostentatious display, as too often seen, being neat and harmonious. One of these creations, the most finished, separates flower beds from the walks surrounding a fountain; the other borders a walk to a spring; and both, planted with appropriate vines and low-growing things, show an artistic feeling in the designer rarely met.

A specialty in Mr. Rasin's horticultural penchants is one which he has probably imbibed from some of his English gardeners, or perhaps caught in a visit abroad,—namely, the cultivation of *cucumbers* under glass. The chief end of gardeners in Great Britain, where our tropic suns are lacking, would seem to be the production, at great cost of space and time, of enormous yard-long cucumbers, which are doubtless crisp and of fine flavor, but which to an American palate would perhaps not be preferred to those grown over in Magothy. Mr. R., however, in his stove-house, devotes probably one-third of his space to the production in the winter of these English cucumbers; and, among a choice and well-kept collection of tropical plants, are to be seen his vines in every stage, from those just starting into growth to others bearing fruit two feet long. We are frank to confess were that house ours, the fine specimens of Marantas, Pandanus, Crotons, &c., which Mr. Anderson, the gardener, has in charge, should soon crowd out the cucumbers, but we mention their production at this place as the only instance we know of their house cultivation. In the same house, under the benches, asparagus is forced and mushrooms grown.

An effective device adopted here for main-

taining a humid atmosphere in the hot-house consists of an iron pipe bent on itself and running through a shallow cistern of water under the bench into a coil in the furnace, creating a circulation similar to that from a water-back in a range or stove, and raising the temperature sufficiently to vaporize some of the water.

Mr. Rasin, besides his stove, has another large glass house, covering under one roof a green house and grapery, and is now contemplating the erection of another in order that it may secure room for the development of his many fine specimen plants. In his case, if we err not, a portion at least of his increasing devotion at the shrine of Flora, is due to his attrition with fellow horticulturists in our State society, of which he was one of the early promoters, and in the success of which he feels so deep an interest.

A Suggestion for our Maryland Horticultural Society.

Col. Edward Wilkins, of Kent county, one of the vice-presidents of the Society for the State at large, and widely known over the whole country as one of our most extensive peach growers, made a suggestion to us at the time of the exhibition in September last, which, communicated to a number of gentlemen interested, met their hearty approval, and which we present now as worthy the consideration of the Society, or of the executive committee, if the latter has authority to act in the premises.

It is to the effect that the monthly meeting of the Society for August, which as regulated last year took place on the second Tuesday, be postponed to the *third* Tuesday of the month, and that on that day an Exhibition of Peaches be held. The production of this fruit is the salient point in the Horticulture of Maryland, and with a fair season, a display can be made here, which could not be equalled anywhere else in the United States. In all other departments of horticulture we must *grow up* to other communities more advanced than ours; but in this, *we lead* the world.

Such an exhibition would also draw, as no ordinary general show could, many strangers from abroad; and attract the attention of the whole pomological world as an event unparallelled in the history of fruit-growing. To the State itself it would prove of no mean advantage, showing the enviable position she occupies in this branch of culture. We believe that *two thousand* plates of peaches would be shown, or even more, were energetic measures taken to render the Exposition worthy of our State.

The present year ought to give, in the ordinary course of seasons, a good opportunity for testing the plan proposed, as after three total or nearly total failures of the peach crop, the coming one, it may be conjectured, will be reasonably sure. There would be no reason why other fruits, particularly those more peculiar to our section of country, in season, should not be also included, but the distinctive feature should be *peaches*.

If it be urged against such a display at the time named that it would interfere with the success of the Annual Exhibition which follows in the succeeding month, it may be answered that the executive committee will probably put that Exhibition a week or two later than it was held last year, so that a considerable interval would occur between the two shows. But the idea of Col. Wilkins was, as we think, that this Peach Show should be free of admission, as are the other monthly meetings and exhibitions of the Society, and that the great object should be to offer a practical demonstration of the condition of Maryland horticulture in one branch—the one which she has mainly developed—and that the reputation and *prestige* to be gained by it would more than compensate the Society for any expenditures made.

We would recommend, however, that a schedule of premiums be made for such an exhibition, and that these be of the most liberal character. This, first, to secure the largest and best collections and specimens, as befitting the object of a State show; and, second, because the season named is a very busy one with our peach growers, and they ought at least to have the chance of being compensated for the time and labor spent in the preparation of their offerings.

This feature we know is open to objection on account of the heavy charge it would be against the funds of a new Society; but with the very important objects indicated in view, we would be entirely willing to leave the problem, as to how the prizes and expenses shall be paid, to solution by the energy and tact of Mr. Treasurer Rasin.

Should the giving of money premiums be decided unadvisable, diplomas might be awarded, with two silver medals in addition, for respectively the best collection and the best plate of specimens shown. Our peach growers, we are confident, will respond freely to an invitation to send their offerings, and if the conductors of the county papers will interest themselves, as they doubtless will, in stirring up their people to the good work, a friendly rivalry will be excited in different sections, which will contribute largely towards making a great success of this show.

Maryland Horticultural Society.

The December meeting was held on the 22d. The attendance was limited. Some routine business was transacted and the report of the Treasurer was read, from which it appears that the receipts of the Society have been, from 277 memberships, including 11 ladies, $820; sales of tickets at Annual Exhibition, $457.60; from premiums donated to Society, and other sources, $140.50—total, $1,418.10.

The expenses have been for printing, advertising, lumber, &c., $931.84; premiums awarded, $448.50—total, $1,380.34; leaving a balance in the treasury of $37.76.

For exhibitions at the monthly meetings for February and March, the Executive Committee have prepared a list of premiums to be offered, copies of which can be had on application to the officers, or at the office of the *American Farmer*.

An address of the President to the Executive Committee and by it referred to the Society, was read, urging the necessity of a hall for Horticultural meetings and exhibitions, and recommending measures to be taken by the Society looking to the erection of such a building. Some discussion ensued, but the suggestion did not seem to be generally considered practicable or opportune at the present time, and, upon the motion of Mr. Pentland, the whole subject was referred without instructions to a committee, which, as appointed under the resolution, consists of the President and Messrs. Wm. H. Perot and B. T. Grove.

On the motion of Mr. Rasin, four committees were appointed to solicit an increased membership to the Society from the citizens of Baltimore, and, on motion of W. B. Sands, a circular letter was directed to be addressed to the Vice-Presidents for the several counties, requesting them to endeavor to interest their people in the same way.

The discussion for the evening (the subject, *Ferns*,) was then opened by Mr. Brackenridge. This gentleman, recognized as an authority and able writer on this family of plants, noticed first their divisions into tufted, arborescent and scandent kinds, and gave a minute account of the distinctions marking their botanical divisions. He said that the distribution of ferns was exceedingly wide, they being found all over the globe, save in the regions of eternal snow, ranging in size from the most diminutive to the giant Cyatheas, Dicksonias, Alsophilas, Cybotas, &c., which are tree species rising to a height of from 50 to 60 feet. This class of plants is particularly abundant in the tropics and in the islands of the Pacific. In the flora of Brazil they exist as one to forty-six compared with other plants, and in Polynesia in the wonderful proportion of one to four. Mr. B. said there are now over 2,000 described species of ferns, and that so early as thirty years ago he had the superintendence of a collection which numbered 600 living species. He described in brilliant language the scenery in some parts of the South Pacific, where ferns of many kinds are the most prominent feature of the vegetation, and gave a great deal of information as to the habits, culture, &c., of the various kinds, saying that for graceful beauty his favorite is the *Adiantum* genus.

Mr. John Feast, the Corresponding Secretary of the Society, and the Nestor of our Baltimore florists, then read a carefully prepared paper on ferns, abounding in practical suggestions as to their culture; the houses best suited for the growth of the tender, and the arrangement for outside culture of the hardy sorts. He expressed a preference on his part for the *Gymnogrammas*, or gold and silver varieties.

Mr. Pentland, being called upon, disclaimed any specific acquaintance with ferns, comparable with that of the other speakers, but said they were among plants his favorites, not only from the variety and elegance of their forms, but from their exceedingly interesting habits of growth, and he was glad to bear his testimony to the attractiveness of the culture of these graceful plants.

The meetings of this Society are now set for the third Thursday in each month, and the subject for discussion in January will be *Pears*, with Mr. Marden to open.

This meeting was an interesting one, and showed what can be done to make a success of the monthly discussions. It is to be hoped that as soon as a suitable room is secured there will be a more general attendance of the members, as well professionals as amateurs.

Science and Practice.

To the Editors of the American Farmer:

Gentlemen of unquestionable scientific attainments have in recent years successfully advanced and promulgated the theory that the "Yellows" in the Peach tree is caused by a "Mildew" or Fungus upon the roots—a theory I believe first disseminated by French authorities—accepted by Mr. Meehan, of Philadelphia, and more minutely defined by Prof. Taylor, of Washington, D. C.; and upon the investigations of these gentlemen, is based American education relative to the "Yellows," or rather the cause of that disease in the peach. Now, however obscure and mysterious this *scientific* theory may be to the unpretentious minds of a large majority of the *practical* workers in this branch of fruit growing, it has, nevertheless, been proven a hazardous undertaking to publicly express a doubt as to the "soundness" of this "fungoid theory," in any of its marvellous details. Aye! even a murmur of discontent subjects its author to a sarcastic "quill skinning" by the masters. With all this danger confronting me, there is a *burning* eagerness to be informed on a single point, that the dread of an entire vial of scientific wrath being emptied upon me will not quench.

If the "Yellows in the peach," is caused by this Fungus on the root, why does not this disease show itself in Apricot and Plum trees, budded or grafted upon Peach roots? I have seen in peach nurseries where buds failed to

take, the trees were the following Spring grafted with plums, some of the latter, together with the crooked or refuse peach trees, remaining in the same block for perhaps two or three years afterwards. The peach trees would get the "fungus"—(excuse me, I mean the "Yellows")—and die, standing within a foot of a Plum tree grafted upon Peach root, which neither had the Fungus on the root nor the yellows in the branches. How is this, ye scientific Solons? Don't you say it's not so, for that will only show a bad condition of your nervous system.

Last Spring when the Peach Aphis was destroying thousands of peach trees on the Eastern Shore of Maryland, scientific gentlemen professors told us all about them. They knew everything about the nature, habits, &c., of the insect.

"The last brood in Spring are females," says one, "which live to deposit their eggs on the buds and branches of the tree, in the Autumn, where they remain through the Winter and hatch early in the Spring following."

Did those professors say one word about that same Aphis attacking the roots of the Peach tree? *Nary!!* Did they tell the humble man of practice that he could find them (the Aphis) in dead of Winter, congregated in camp-meeting numbers upon the roots? *Nary!!* So I am out with "scientific Peach-yellow gentlemen," as well as scientific bug-gers, and if it remains cold enough to keep the Aphis under ground until I have another opportunity, I'm goin' for them on the "EASTERN SHORE."

Pecans and Crab Apples from S. Carolina.

Messrs. Editors American Farmer:

I herewith send you my *whole crop* of my largest variety of Pecans, but am very sorry that it is only an *unit*; you will find it wrapped among the others to distinguish it; the young trees I send along are of this variety. They are very small, being seedlings of this year, but as they have come up under the parent trees which are isolated, I believe that they will prove true. I send in another paper another nut, being the crop of the variety of the second size, but as this tree is quite near another tree which bears rather small fruit it may not produce fruit as large as itself; it is numbered 2. The rest are of the second largest size, and my children, who eat most of the nuts, pronounce them the *sweetest* of all, and as the tree is at some little distance from any other the produce may prove most true to the kind. These are the crop, at least all that I can gather of a pretty large tree, but this is their year of rest. If these nuts should prove more numerous than you would care to plant, why you can do as you please with the rest, eating a few at any rate in order to taste and test them. The next year I expect to have a great many more, and if you would like some to place where they "will do the most good," it will give me pleasure to send you some to distribute among your most promising correspondents and subscribers. As it is most decidedly deciduous, the trees being already nearly leafless, although tomato and bean plants are green and blooming, I can see no reason why they should not do well with you.

As the Pecan proves much more fruitful in Texas and Louisiana, I attribute this to the greater richness of their soils, and therefore believe that in rich land here or with you they would prove more fruitful. The tree is of regular shape and quite handsome enough for a shade tree.

I will send you a few cuttings, and, if I can find them, a sucker or two of my crab apple, which I believe to be no hybrid but a simon pure *Pyrus Coronaria*, but you will judge for yourself. If the trees and cuttings should fail, I can send more cuttings at any rate, at any time. It is a very slow growing tree and of only the 2d or 3d size, ornamental in shape and flowering, bearing most abundantly. If any of your friends should wish cuttings for scions, if they will send me the postage to prepay, I will send them most willingly, as I think it quite too good to remain hid away in a corner of the world.

I have put up the crab apple and pecan trees to go by express, but the pecan nuts I will send by mail, and hope that they will all reach you safely and in good order and prove acceptable.

Your senior is right about my subscription to the *Farmer*, which must have begun not long after 1830, for at that time I began to attend to my own planting, although I held property 30 months before, but that time was spent in Europe. ROBT. CHISOLM.

Sheldon P. O., Beaufort Co., S. C., Dec., 1874.

[Our correspondent is one of the most thoroughly informed horticulturists of the South, and for a great many years has taken an enthusiastic interest in growing all kinds of fruit which flourish in his region. The nuts, cuttings and trees arrived safely and will be distributed and planted, and the courtesy of our friend is duly appreciated.

The crab apple to which Mr. Chisolm refers, and scions of which he offers to distribute upon receipt of the necessary postage for their transmission, is one originating on his own place, and of which we were favored with a small box of samples in the Summer. It is quite large for a crab, smooth and regular, some of the specimens measuring 2½ inches in diameter. From the flavor, the texture of the skin and the formation of the calyx, it was suggested that the fruit might be a hybrid with the quince, which does not succeed with our correspondent, and in place of which the crab is used, but in this view he does not acquiesce. The fruit is apparently a good keeper, as at the present date a specimen saved from last Summer is still in excellent condition. It makes a very fine and beautiful preserve.—*Ed. A. F.*]

Bound Volumes of the Farmer for 1874.

We have a very limited number of complete sets of the *Farmer* for the last year, neatly bound, which we offer at $2.00 at our office, or $2.25 by mail, postage paid.

Growing Mushrooms.

Messrs. Editors American Farmer:

In theory, few things are easier than mushroom culture; in practice, success is not always so certain.

There are a few main points to be considered in the successful cultivation of the fungus *Agaricus Campestris*, that being the variety usually referred to when mushroom growing is spoken of by Anglo-Saxons, though on the continent of course many varieties are used and sold in the markets under strict and scientific inspection. The temperature of the place in which they are grown should be equable, say, 55° to 65°, not too dry,—that is, not arid,—and not too wet. The material for the beds should have a little careful preparation, the heat at spawning not to rise above 80° nor to fall below 70°; too many wood-lice, snails, &c., are injurious. The spawn should be of the best quality and when broken in pieces it should have a whitish appearance with very fine thread-like substances running through it, and should smell something like mushrooms when rubbed between the thumb and finger. If the spawn has passed this state, and upon breaking the bricks long coarse white filaments are seen of the size of darning cotton, it is not as good as it should be.

Procure a sufficient quantity of horse manure divested of the litter, put it in a heap three or four feet high, under cover, mixing with it in the proportion of one barrow-load of good loamy soil to four of the manure; let it remain in the heap from ten days to two weeks, turning occasionally so as to get rid of the strong heat and rank fœtid smell. Make the bed two to three feet thick, beating down firmly every layer. When completed thrust in a stick, allowing it to remain a day or two, when if upon withdrawal the stick feels comfortably warm, say about the heat of newly drawn milk, insert the spawn a foot apart all over the bed. Then cover the bed with a light covering of straw for a few days; if at the end of that time the spawn has commenced running freely, cover over with three inches of good rich loam, beating down with the back of the spade, and cover all with about a foot of straw; should the bed appear to get too dry, water over all with hot water. If the heat of the bed sinks too rapidly, put on more covering; if it rises, put on less. The minor details of this practice may be varied to suit circumstances; we give them as being the method most successful with us during years of practice.

We willingly confess that the finest mushroom we ever heard of grew spontaneously betwixt some frames. * *

Growing Asparagus.

D. K. Youngs gives the *American Garden* the following plan pursued in growing this crop for the New York market in the famous Oyster Bay district, and his views as to varieties:

For garden culture, the rows should be at least two feet apart; the plant fifteen inches apart in the row. For field culture the rows should be at least four feet apart, the plants twenty inches apart in the row. At this distance the crowns will soon meet in the row, and after twelve or fourteen years growth there will be scarcely any space left between rows. Plant deep—six or seven inches—in a light sandy soil—to insure uniformly large shoots. Even then there will, necessarily, be many small ones. If planted only three inches deep they will become very small after the first three or four years, and "small by degrees and beautifully less" every year thereafter.

Always plant in the spring. The next spring after planting, cut the shoots as they appear during four weeks; and each succeeding spring cut them for six or seven weeks. By so doing the plants produce shoots better in size and quality than when allowed to pass a year or two without cutting.

This also prevents the plants producing heavy crops of seeds, which exhaust them more than anything else, except being overrun with weeds.

Three varieties are now grown, although I formerly thought there were but two. These varieties are distinguished by their color—brownish green, green and a very light green. The first is the most productive, though not as large as the second. "Conover's Colossal" is as good as, and exactly like all others that I have raised—without a shade of difference. After all the noise made, it is provoking that it did not prove just a little better than the older sorts. It has taught me the good lesson not to discard old and well-tried varieties for more pretentious and well be-puffed novelties.

Market Gardening Crops.

J. B. Root, an experienced trucker and seed grower in Illinois, gives the following suggestion in one of a series of articles in the *Fruit Recorder*:

It is difficult to say what crops I would recommend to a beginner, or how much of them, for I know not what may be the soil, or market, or circumstances. I can only recommend some of the leading vegetables, conditioning each with several "ifs," so that the reader may not only know some of the inducements to cultivate them, but also some of the difficulties he will encounter.

Of early sown crops, if one has a warm soil, radishes make one of the most profitable as demanding little expense except the bunching, which is necessary only when you are sure of your crop and a sale for it. It usually finds large sale at a good price *if very* early, and is often raised as a stolen crop. Another advantage is, the quick returns secured, the crop being raised and marketed in from 40 to 60 days.

Onions, year in and year out, probably yield the most profit of any garden crop, but should never be undertaken in large amount at first, nor even upon a small scale if the ground be poor or weedy. New ground one or two years clean tilled is especially favorable, and along with this, if the grower has an inborn hatred of weeds, he is pretty sure of a crop.

On cool soils and well tilled, early peas are a good crop, but provision must be made to have an abundance of pickers whenever wanted. It also is cleared from the ground in time to allow of pickling cucumbers, late cabbage, late roasting ears of corn, or turnips, and by planting

between the rows, fine crops of melons or squash can be grown after them.

Early cabbage pay well when well tilled on *very* rich ground, but most new beginners err in attempting at first to grow largely of early cabbage and late celery, two of the most difficult crops to grow and demanding the largest outlay and risk.

Early beets for bunching are usually in free demand and pay well, having no pests and safe for a late crop should they miss the early market. But the grower must remember they are bulky, and it takes a great many wagon loads to realize $100.

Early potatoes in every market are sure of a demand and one of our surest crops. Economically managed it always yields a fair profit, and often a very large one. Mulching with manure to be plowed under for the second crop insures a good yield, and being all available for the other crop really costs the potatoes nothing.

Sweet corn usually pays well if brought into the market very early, or very late, but it is so easily raised that in the height of the season the glut drives the price to a low figure. But it is profitable hog and stock feed even while green, feed stalks and all, so there need never be any loss upon it.

Melons upon sandy soil in good heart, if protected from their many pests, "can't help but pay," and the demand grows with the supply till we can almost say that no market has for any length of time been glutted with them. But "eternal vigilance is the price" of melons.

Winter squash, especially Hubbard, have become such a staple in the market that a large demand is always certain, and the grower of a large crop rarely fails to realize well. Failures are often due to insufficient fertility, but more frequently by neglect the bugs are allowed to destroy them.

Tomatoes, if once well rooted, are the most tenacious of life, and loyally yield at least a fair crop whether the season be a continuous drouth or one protracted rain. Often it is imprudently marketed and the price driven very low. But it has become such a standard fruit for immediate table use and for canning, that with tact in marketing, or by canning all surplus, a fair price ought to be maintained. I annually market several hundred bushels, but never have sold a bushel for less than seventy-five cents and more usually have obtained a dollar. On the wagons ready for market, I do not think they cost me more than thirty cents at the highest.

The root crops, beets, carrots, parsnips, turnips, and ruta bagas, grown upon clayey loam pay well in most markets, but the important items of expense are their culture and harvesting, and economic methods must be studied.

Treatment of an Apple Orchard.

A correspondent of the *Gardener's Monthly* writes as follows to that journal:

"I have an apple orchard with a variety of trees—some old, others young. The trees look well, and were quite full of fruit early in the season. Part of it fell early; the remainder was generally wormy. I find in most of the trees borers have been at work. My men have cut them out. In doing so they have had to scar the trees considerably. Should I put anything over these cuts to protect the trees? I have had the ground loosened up around each tree, and wish to know if it would be well to lime around them, or if there is anything better I could use. I have a small dwarf pear orchard, also a few standards among them. The trees look badly,—fruit small and rough. Please give me your best treatment for them."

The editor gives the following reply:

"If the trees had been properly operated on, there would have been no great wounds from the knife in hunting borers. The injury to trees from barking is in proportion to the transverse diameter of the part stripped. The ordinary apple borer makes a hole in the bark of about a quarter of an inch in diameter, and this is an injury; but the tree suffers no more if a foot in length of bark is taken off up the stem, so that it be no wider. Borer hunters, with a jack-knife, therefore follow the borer upwards, and do no more injury than the borer has already done. But you have "scarred the trees considerably," and what is to be done now? Haul some earth, and put enough around the trees to cover the scars. It may be but a wheelbarrowful, or so, will be enough for each.

Loosening up the ground around the trees may do good, but it is a costly and roundabout way of doing it; and at the same time it may do harm. It would have been much better to let the ground alone, and put on, under the trees, a good top-dressing of the same kind of earth recommended to cover the scars with. Fruit trees such as these are very grateful for top-dressing. Liming may do a little good if there is much vegetable matter in the soil; otherwise, not. The stunted dwarf pear orchard should be severely pruned, and the ground around them well top-dressed. The worst dwarf pear orchard can be renovated by this simple process."

Winter Spinach.

Gardeners are generally aware that autumn sown spinach gathered in winter has little succulence, and, when cooked, is tough and stringy. A German market gardener in our neighborhood is noted for the excellence of the spinach with which he supplies his customers in the very depth of winter. His mode of preparing it is as follows: Before the frost sets in severely he digs a pit four feet square and four feet deep, covering it sufficiently with boards and litter, as the cold increases, to keep out the frost. During the winter, about once a week, he cuts the spinach in the open ground, gives it a slight sprinkling with water, throws it into this pit, covers it to keep out the frost, and leaves it four or five days or even a week. It is then ready for marketing—coming out of the pit quite fresh, tender and succulent. We have sometimes thought on seeing it thus treated that the leaves had made a fresh growth, so finely did they appear. The philosophy of the treatment seems to be the gradual drawing out of the frost and the absorption of the water with which it was sprinkled; the effect is that the leaves and their midribs increase in size and the plant looks almost as well as it ordinarily does in April or May.—*Am. Garden.*

WORTHY OF IMITATION.—The Germantown Horticultural Society announces that at a forthcoming meeting there will be distributed among the ladies present fifty winter-flowering carnations (President DeGraw,) in five-inch pots; and to the persons showing the same plants three months afterwards, at the February meeting, the following premiums will be awarded: For the best specimen, one hundred bedding plants; for the second best specimen, fifty bedding plants; for the third best specimen, twenty-five bedding plants. The bedding plants will be delivered in time for planting out in spring. The carnations are to be treated as house or window plants, and must not be kept in a greenhouse or conservatory during any part of the time.

Floriculture, &c.—January, 1875.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Lawn and Pleasure Grounds.

Except it be with frozen balls, the present season is certainly not the most favorable one to transplant evergreens; and it may therefore appear a little out of place to specially notice them now; but at the moment we write, a cold northwest storm of wind and sleet is sweeping over us, and to face this openly requires considerable resolution, backed up by a thick overcoat; under such circumstances, to get on the lee side of a few evergreen trees, or a hedge of the same material, makes one feel comfortable, and truly to appreciate the object affording it.—Therefore we say, plant irregular masses of evergreens on the exposed side of dwellings, and the approaches leading thereto, to be thinned out as they advance in age. For this purpose, there are certain kinds better adapted than others, as being dense and robust; as such are the Norway and White Spruce, Austrian and Scotch, with perhaps a few White Pine, together with some Balsam and European Silver Firs, to which might be added sparingly the American Arbor-Vitæ and Hemlock Spruce.

For shelter hedges or screens, which have to stand shearing, the best kinds are the Norway Spruce, Hemlock do., and American Arbor-Vitæ, and the form such hedges should be trimmed to, is that of an inverted letter V; this affords light and air, causing the branches to become strong and close down to the ground. When the above-named kinds are not easily procured, the common Red Cedar or Jersey Pine will answer the purpose tolerably well, and we have even seen the White Pine used with good effect.

Where the grass on lawns has become thin and weak, we would advise in frosty weather to give a dressing of a compost of lime and swamp muck, or, when the latter is not to be had, some good quality of loam may take its place, avoiding as much as possible the choice of any earth containing seeds of pernicious weeds; and in February or March the surface may be raked smooth, sowing on bare spots seeds of blue or red-top grass and white clover, after which pass the roller over the whole.

When the weather permits such work as rooting up of condemned trees, and lopping off dead branches, and such others as are a hindrance to, or encroaching on other trees, of which they have been heretofore only the nurses; we see many—otherwise notable places, where this work is sadly neglected; and on the other hand can be observed many places where few or no trees are to be found near residences, under which panting animal nature might find shade during the hot summer months; therefore we say to all those who own houses and land, to plant trees, or even one single tree, the shade of which you may live to enjoy. Plant anyhow, as posterity will give you credit, as a man's good works live after him.

It is desirable, at this season of the year, to prepare and store away stakes for flowering plants, tomatoes, lima beans. Char a little the lower end of the bean pole as far up as the depth it has to pass into the ground; by so doing they will last at least one year longer. Cut White Buckthorn and Osage Orange hedges; the strong thorny stems or twigs of the latter, when bound in a single row around the trunk of any tree that is exposed, prevent cattle from injuring its bark.

Greenhouse.

Backward and boisterous as the month of January usually is, yet under the glass we may have beautiful flowers of Camellias, Roses and Callas, with Carnations and Chinese Primroses, also a sprinkling of Begonias and other miscellaneous kinds. Now to suitably accommodate the wants of all these in one house, requires considerable experience and observation; Camellias requiring a temperate situation, with a partial shade; Begonias, Callas and Roses, light and heat; while Chinese Primroses require less heat and abundance of light.

Should Hyacinths and Tulips be now in bloom, the effect they produce may be greatly enhanced by arranging among them a few neat Ferns of the Adiantum and Pteris kinds, with a few tufts of Lycopodiums interspersed, as no flower shows to advantage unaided by a mantling of green, the lack of which is the great objection in the present style of making up hand boquets, a style which we are pleased to learn is about to be replaced by one more graceful. In making so free use of the word graceful in our floricultural remarks, it seems to us as appropriately applied, when descanting on the merits of the charming family of Filices, for among one thousand species, with which we are acquainted, there are none of them but possess some feature or characteristic that is pleasing to the eye, while others again are so exquisitely beautiful in color or outline, and delicate divisions of their fronds, that words cannot express their beauty; and as they have of late become so deservedly popular, in our next we shall make some remarks on the characters and mode of culture of some of the leading kinds; as at present, time will not permit us to enlarge on this head.

Cut down and repot Fuchsias, so as to have young growths for cuttings. So soon as Stevias have done blooming, cut them down, set a few plants aside from which to propagate, and turn the remainder out of the pot, in order to make place for other plants of greater imprortance.

The Cactus family (except the *Cereus truncatus*,) as well as most succulent plants, will at this

season require but little water; a season of rest causes them to flower more freely.

Verbenas and other soft-wooded plants, started from cuttings in the fall, should now be placed in small pots, after which they should receive a little extra heat to establish them; and all Roses lifted out of the ground in the fall, can be pruned now and tied up neatly to stakes. Observe to examine the bulbs of Tuberoses and Mexican Tiger flowers; both require a dry atmosphere perfectly free from frosts, and to preserve Caladium roots, they ought to have no water and remain in the pots in which they grew; these should be kept in a warm situation, until towards the latter end of February, when they can be repotted, and kept in a temperature ranging from 60 to 75 degrees.

The Yuccas.

Our frontispiece to this number shows a very handsome group of these stately and attractive plants, which of late are much employed for lawn adornment, their use in some situations being very effective. The engraving, as well as the description below, is from the *London Garden*.

Much might be written, and that to good purpose, on the stately effects to be obtained by the judicious planting of yuccas of different kinds in garden scenery. It is impossible to overlook their beauty, even when planted singly or in formal lines; but if arranged in bold groups and masses, they are unsurpassed as flowering and foliage plants for outdoor decoration. Their great panicles of pearly white, bell-shaped blossoms contrast so well with bright green conifers and low-growing shrubs of less distinct contour that all through the summer and autumn it is possible to form charming pictures by massing them either on the margins of shrubberies or in sheltered nooks on the lawn and pleasure grounds. These plants are simply used in forming picturesque groups and clumps, instead of being, as is too often the case, dotted indiscriminately here and there on turf in unmeaning regularity. It has often been said that the hollyhock is the only decorative flowering plant of any importance to the landscape gardener. But the yuccas are even more stately, however; and they are permanent in character, being quite as ornamental in winter as in summer. They succeed nearly equally well in any soil, but a deep, rich, well drained loam is preferable; and they make finer specimens, if sheltered from rough, cold winds, than they would do if more exposed. The flowers of all the species (and these are more numerous than many imagine) closely resemble each other, being mostly of ivory-like whiteness within, the backs of the thick, wax-like segments being more or less tinted with purple. Much may be made of yuccas by associating them in well arranged masses along with other distinct and gracefully habited plants, such as pampas grass, *arundo conspicua*, hardy bamboos, dwarf fan plants, and a score of other valuable decorative plants too seldom seen in our gardens.

Our engraving shows how a shrubbery recess may be made a charming picture by the use of yuccas alone: and it is in positions such as these that the flowers show to the best advantage. The kinds here shown are *y. filamentosa* on the left, a kind which bears rather lax but graceful spikes of flowers. The central specimen is *y. aloiolia*, a form generally met with in cool conservatories, although perfectly hardy in sheltered positions; and it is a rather curious fact that the variegated form of this plant is found to resist cold better than the normal kind. Both, however, make noble plants. The right-hand figure represents the common Adam's needle (*y. gloriosa*,) one of the most robust of all the species; and associated with it is the free and vigorous *y. recurva*. These last rarely fail to flower every year.

Some Neglected Evergreens.

To the Editors of the American Farmer:

I am much pleased to see Mr. Brackenridge calling attention to a variety of neglected trees, shrubs, &c., for ornamental planting. There is entirely too much sameness in our lawns, &c. True, we do occasionally see—in addition to the never-absent Norway Spruce, Arbor Vitæ, and White Pine,—a few handsome plants of different genera; but these instances are so rare that they may be almost termed the exceptions to a general rule. We would not be understood as speaking in disparagement of the Norway Spruce, or White Pine. On the contrary, we consider them useful and ornamental; but there are also very handsome varieties of shrubs we very rarely see. If Baltimore should ever boast a botanic garden, where such things may be planted out, properly labeled and cared for, our citizens might possibly obtain some knowledge of arboriculture, which could not fail to be both interesting and useful. But there are many beautiful varieties of shrubs and trees in our nurseries, which may be purchased at a slight advance upon the prices charged for more common kinds.

When at Mr. Brackenridge's, a few days since, we noticed a very nice collection of Hollies in pots, including, amongst others, *Ilex latifolia*, *I. Silver Queen*, *spiralis*, &c. Mixed in with Rhododendrons they form a beautiful contrast. The same may be said of the Golden English Yew, a fine plant of which may be seen growing at Elgin, the property of Mr. Alexander Murdoch, Baltimore county. A good quality of the Yew is that it will thrive when quite overshadowed by other trees; in fact, the English Yew and the Box are the only evergreens we have ever found capable of maintaining a respectable appearance when planted beneath the drip of other trees, and we have tried many.

Now, one word as to the Rhododendron. Why is this most beautiful evergreen so often planted singly on the sunniest spot on the lawn, while their native habitat is the northern slope of a mountain, where they are kept by nature comparatively cool and moist at all seasons? The same may be said of Kalmia latifolia. There is abundance of material for making shady places beautiful—Rhododendrons in variety, Kalmias, English Yew in variety, Box, and Ghent Azaleas, besides others which might be mentioned. We would just add, however, that in a pretty extensive acquaintance with the Rhododendron we have not been able to persuade it to thrive where

lime is abundant in the soil. If we had our choice we would always plant them in masses, in shady places on northern slopes, and *thoroughly mulch them with decaying leaves.* Plants requiring similar treatment should be grouped together, sometimes in mass, at others with sufficient space between each to allow of planting something more hardy and less valuable, to be cut away when the others have become established and big enough to take care of themselves. Perhaps our public parks can give a practical lesson in this department. N. F. F.

The Adiantum, or Maiden-Hair Fern.

BY JANE BOSWELL MOORE.

Three years of my school life were spent on the banks of the Susquehanna, "that winding or crooked river." My health, never very good, seemed at one time in those years about to break down, and I firmly believe would have done so permanently, but for my great love of flowers, which led me much into open air, and as often as possible; for study hours began at nine, lasting until half-past four in the afternoon, and again at night, whilst all intervals were filled up with practicing music, "working out" examples, (and I remember one of our teachers was absurd enough to give out as a single lesson the working and demonstrating nine closely-printed pages of the most difficult examples in the Arithmetic.) In pleasant weather, I liked to spend all Saturday in the woods, on the hills and along the meadow "flats," by the river bank. The "flats" were gemmed in the spring with blue violets, and the path that ran along the river's edge was bordered with calamus or flag; adder's tongue, a curious flower; the pure white blossom of blood root; and many other plants. The hours thus spent were the only ones in my life in which I was free from care. I enjoyed the present, and shrank from the future. Life, sunshine and flowers! I look back upon them to-day, and that past, though only some fifteen years away, seems to be ages removed. Thrice only, since then, have I seen a plant which was hailed in shaded dells with delight,—once in the horticultural exhibition in Philadelphia, four years ago, where no one of the many brilliant blossoms or rare hot-house exotics had for me the exquisite beauty or grace of the Adiantum, or Maiden Hair—the Adiantum Farleyense, a very exquisite and rare variety of the species now in the greenhouse of Mr. Fairley, a florist on Druid Hill Avenue. This fern is exceedingly graceful and beautiful,—a native of Jamaica. I turned from many fine Begonias, Camellias, Fern cases, and novelties for hanging baskets, to the delicate green of the fern leaves, and their perfect fringing. Ferneries are daily growing more popular, but I did not know until lately that one might grow the adiantum I so loved in childhood, without fern or wardian case, in one's parlor. I was visiting a friend whose culture and taste are admirable. When I had looked over pictures, books of engravings, stereoscopic remembrances of summer travel from over the sea, I sat down at the cheerful bay window to talk over old times. Matilda humorously recounted her trials with plants,—failures, &c., because of gas, bad air, ashes, dust, and dryness. "I love so to have flowers bloom in the room where I am—it is so much more home-like than having to wander through a conservatory,—so last winter we tried Armstrong's Fame Heater. The ventilation is improved and my flowers thrive finely." As she spoke she pointed to a window I had not noticed; to my surprise, on a table in porcelain pots, were five specimens of Adiantum. They had grown there some time. I give my friends directions, that others who love these graceful springing ferns may have them also. Plant the ferns in pots or boxes without drainage from the bottom. In the base of the pot, however, put two layers potsherds broken rather finely, and on these a few small lumps of charcoal; on this put the soil—a compound of peat, loam and sand, which may be gotten from a greenhouse. Do not keep the room very hot or close, nor water too much. Mr. Rand, in "Window Gardening," recommends the following ferns for culture in this way: Adiantum effine, pedatum and capillus Veneris.

Frosted Plants.

Mr. James Hogg, in the December *Garden*, has the following, which may be serviceable to some of our readers at this season:

Winter is now fairly upon us, and we may expect accidents by the frosting of plants in our greenhouses and dwellings. Scarcely a winter passes but some of our gardening acquaintances are thus annoyed. During the winter we sometimes have mild, we might say, warm, rainy days, closing at sunset with the appearance of a continuous wet or foggy night. But suddenly (we have sometimes seen it take place inside of thirty minutes,) the wind comes around from the westward, and we have the thermometer at zero or below within an hour. Before an increase of heat can be got up in the greenhouse the cold has got in and the plants on the front shelf are frosted, and, if not properly attended to, will surely be killed. Frosted plants should be immediately watered overhead with *cold* water—no matter if it forms ice when sprinkled on them; that will do no harm. Heat should be gotten up as soon as possible in the heating apparatus. As this becomes warm, sprinkle it well with water, so as to get the house full of warm vapor. The vapor distributed over the house equalizes the heat, and, condensing on the glass, forms a thick coating of hoar frost. This frost, by completely closing the chinks and laps of the glass, assists in keeping out the cold. Continue this, and also continue the sprinkling or syringing of the plants until the water no longer freezes upon them. The heat on such an occasion should not be allowed to exceed 50 degrees until the sun heats up the house, when it may be allowed to rise to 60 or 70 degrees. Frosted plants, thus treated, do not require to be kept shaded while being thawed out—indeed, we have seen them injured by being shaded. If frost happen to the plants in the dwelling-house, pursue the same course of syringing or thoroughly sprinkling them with *cold* water; place pans of hot water in the room to vaporize it, and produce a moist atmosphere,—for on this depends, in a large measure, the success of the operation. Plants sud-

denly thawed out with *great heat*, in a *dry atmosphere*, will be inevitably killed.

This practice will appear strange to some, but it is the only one which has been successful in our own experience, and we have often had occasion to pursue it.

A FINE FUCHSIA.—Mr. W. F. Massey, of Chestertown, Md., had last season a fine specimen of this plant of the *Speciosa* variety which measured over eight feet through the head, and had at one time nearly 2,000 blooms on it.

Aquaculture.

Trout Growing as a Branch of Aquaculture.

By ALEX. KENT, Green Spring Fish Ponds, Green Spring Station, Baltimore county, Md.

Messrs. Editors American Farmer:

In your last issue I promised to say something to your readers on the practicability of connecting Aquaculture with Agriculture, or in other words farming the water as well as the land.

Before offering any of the facts bearing on this subject, however, let me guard against misapprehension. In urging the importance of Aquaculture to the farmer, I do not wish to be understood as advocating the claims of any particular product of the water, but rather as claiming for the water itself a cultivable value, even exceeding that of the land. Just as I might advocate Agriculture without committing myself in favor of any special kind of grain, so I plead for her sister Aquaculture without becoming the champion of any special kind of fish or other product of this most fertile element.

I make these remarks because the few facts I have to offer relate to experiments with the brook trout, and I may seem on this account exclusively devoted to the interests of this fish. Were I to go abroad for facts, they would relate almost wholly to other fish, but unfortunately in our country nearly all attempts at water farming in private ponds, have been confined to the trout.

Let it be understood, then, that though my facts relate specially to trout growing, they are intended to awaken interest in the broader subject of which this is but a single branch. In the language of Seth Green, the great authority in such matters—"Nearly all waters are suitable for some kinds of fish, and the great secret is in stocking our waters with fish suitable for them. You might as well undertake to make sheep live in water, as to make fish live in water not suitable for them, and expect them to thrive."

Of course it is desirable to have the best possible kinds, especially when the object is, a supply for our own table, or the gratification of a sporting taste; but in this climate great care must be exercised, or an attempt to have the *best* will end in having *none*.

I find a very general desire on the part of those who have ornamental or ice ponds already constructed, to stock them with brook trout. I have personally examined several of these ponds near Baltimore, and have invariably found the superficial area too great for the flow of water. In most cases the water supply might be so managed as to keep in health 500 to 2,000 adult trout, but as arranged at present it would not keep *any* unless in a remarkably cool season.

The trout is beyond all question one of the most gamey, beautiful and delicately flavored of all fish, but it is very exacting in regard to the quality and temperature of the water in which it is to live, and therefore particularly lacking in adaptation to large ponds in this region.

These large ponds should be stocked with other fish, but, if supplied by springs, the water may be utilized for trout growing before it passes into these ponds. The trout pond should be small and quite close to the spring, unless the flow is very large and uniform. Even then it is not well to expose a large surface to the rays of the sun, nor allow the water to run far before entering the pond. In a cold climate the reverse of this would be true, but in ours the great danger lies in the over-heating of the water. Suitable water grasses may be employed to great advantage in keeping up the under supply of oxygen, but it is always dangerous to allow the water to rise above 65°. Even in the North more trout are said to have been lost by overheating of the water than from all other causes.

With due attention to this point, I believe that even in this climate, trout growing on a small scale is practicable to farmers. Wherever trout now exist, or are known to have existed formerly, in the streams, they may be grown with success, providing the attempt is not made on too large a scale. Let me emphasize this point. Trout culture *as a business*, cannot be made to pay with any ordinary water supply. It is a failure in this respect all over the country, for the simple reason that scarcely any one has water enough, of a proper temperature, to keep the necessary number of trout. The most sanguine advocates of Aquaculture only claim for an acre of water, twice or thrice the value of an acre of land. No one can become splendidly rich on the products of a two or five-acre farm, and it is not any more reasonable to expect a fortune out of an acre or two of water.

This is the whole secret. Trout culture has been as truly a success as grain culture, but a good many have been disappointed, because looking for a thousand bushels to the acre. If trout and other rare fish are ever to become common to our markets, farmers must grow them in numbers proportioned to their facilities—grow them just as they do turkeys, chickens and ducks—not as a special business, but as an important adjunct of their business—a proper development of their legitimate resources.

I had the pleasure this fall of visiting a farm where this is being done: the farm of Jeremiah Comfort, near Mill Spring, Pa. He has a very small supply of water, but he has managed it so skillfully that he has succeeded in growing a fine lot of trout. His stock at present is worth 2,000 or 3,000 dollars, and is about as large as he proposes to keep it. He feeds curds chiefly, but gives occasionally the pluck of a beef, so that his outlay is merely nominal, while the income ought not to be less than $500 a year.

These fish, after they are six months old, require less care than poultry, and, if successfully raised, yield much larger returns.

A. P. Hinds lately gave the following statement before the A. Ins. Farmers' Club, Long Island: Four years ago, Michael Gregory, of Canaan, L. I., leased about one half-acre of swamp land. He dug his canal and went to work with nothing but his hands. This week he moved his trout, numbering 12,000, and valued at $4,000. He said that in addition to these, he had sold about $1,000 worth a year, and in so doing had kept his stock down. Within the next four years he looks for a big stock. His principle is plenty of fresh water and food, and he finds they grow just as well as if he had spent $5,000 or $6,000 in their culture. Michael evidently was located in a favorable spot so far as pure fresh water is concerned. Certainly the results are more than can generally be hoped for. Another farmer, however, says that he finds it easier and cheaper to produce 1,000 pounds of trout on his premises, than to make 1,000 pounds of pork, and we can certainly say, that so far as the growth of trout is concerned, the above is no exaggeration. Our own trout have trebled their weight in less than a year. That is, a small stock of about 6,000, weighing say 800 lbs. and worth $800, increased in one year to 2,400 lbs. and worth $2,400, at an expense of $100 for food.

It must not be forgotten, however, that there are risks in this kind of stock peculiar to it. The enemies of trout are numerous, and these handsome profits are not to be realized without special knowledge and care. Still the experiment can be made at so small an outlay, that I know of nothing presenting greater inducements to a limited investment. In another article I will give some practical instructions for the benefit of those who feel piscatorially inclined.

The work of distributing the salmon fry among the rivers of our State is completed, and Comr. Ferguson is preparing to take a large number of black bass from the Chesapeake and Ohio Canal, from which the water is soon to be drawn.

The Report of U. S. Comr., Prof. Baird, is now before the public, and contains such a vast amount of encouraging information in regard to the progress and triumphs of fish culture, that we look for an increasing interest in the subject throughout our entire country.

219 *E. Baltimore St., Balt.* ALEX. KENT.

The Shad Fisheries and the Maryland Commissioners.

Messrs. Editors of the American Farmer:

We continue to-day our "*labor of love*," by sending you a list of the fisheries upon the Chesapeake Bay and the Susquehanna River, and an extract from the gentleman's letter, who is much interested in the matter, and who kindly worked up the number and value of those fisheries at our request. This exhibit fully confirms our assertion in the November No. of the *Farmer*—that the fisheries of the upper counties were fully as valuable as those upon the Potomac. It is not necessary, we hope, to remind you that the object of this and the former communication is to call the attention of our people to the wealth we have, "real and prospective," in this industry, and to contrast it with the imaginary wealth in fancy fish. We have but little to add in this line to-day, because we hope by this time the fishermen have their eyes open to their own interest and are ready to stand in defence of it, preferring as wise men "*a bird in hand to two in the bush.*"

We regret exceedingly that you should have so harsh, and we believe unfair, an editorial upon Mr. Seth Green as you had in the November No. of the *Farmer*. You have, doubtless, done Mr. Green injustice in saying that "he asked more royalty for his box than the entire sum at the disposal of the commissioners for one year." This is so unlike Mr. Green that we feel that you have done him injustice, and ought, therefore, to make the *amende honorable*. Mr. Green's generosity elsewhere is worthy of all praise and cannot be paralleled. We know that he does not charge the States of Connecticut or Massachusetts anything, and other States have his patent at a mere nominal price. Prof. S. F. Baird, U. S. Commissioner of Fisheries, used Green's patent from Florida to Maine, upon all the principal rivers, without charge. We have been in communication with Mr. Green for many years and have always found him a truly public-spirited man—ever giving encouragement *to all* to go into the business of fish culture. "*There is something wrong in Denmark*," which Mr. Green knew of, if he asked such a price as you assert. Suppose, for instance, that it is true that Mr. Green bluffed our commissioners off by his extortion. Ought that to have paralyzed them? By no means; they ought to know "that there are more ways of killing a dog than by hanging him." Mr. Green himself proves to you in certain of his reports that his boxes are not an absolute necessity; he says that "he hatched shad eggs in a *tumbler* in General Spinner's Office," "and in a *salt box* in the basement of the Treasury in Washington."—(*Department of Agricultural Report*, 1868, *page* 331.) Green, you see, ignores himself! What then would an ingenious man have done under like circumstances? We would have *gone for* that "*tumbler*" and that "*salt box*;" failing to find them, we would have looked up a few old hog troughs and put wire bottoms to them—would have looked up a few hundred corn meal sifters and improvised them into spawn boxes; or better still, we would have gone down upon some of the principal rivers, and hunted up the spawning beds of shad—have fenced them in or so much of them as would suit our purpose, with fine wire netting to keep out carniverous fishes; have gone to work and snapped our impudent fingers in Mr. Green's face. Our Commissioners, like a certain old fogy, "cared for none of these things," but feit, we fear, a rejoicing that half their work was done. 'Tis true we have no legal right to interfere in this matter, for the law is so framed as to put all our interest in the hands of men who have no interest in common with us,—therefore they cannot feel the absolute necessity of giving attention to an interest by which they are to be benefitted only equally with the public at large,—save as to their salaries.

We object to fancy fish of all kinds, because their utility is simply problematical—shad and

herring a certainty. We object to any kind of salmon, because after we cultivate them we shall have to cultivate a taste for them. Sacramento salmon, *S. quinnat*, and Atlantic salmon, *S. salar*, are both about the same fish in taste. "I do not believe *that any one* can affirm positively that one is better than the other."—*Livingstone Stone, Eighth Annual Report of Commissioner of Inland Fisheries, Massachusetts, for* 1874, *page* 41. If Mr. Stone has stated the truth, and we have no hesitation in accepting what he says, then neither have we any hesitation in asserting that neither variety of salmon is comparable to our delicious shad. With shad and herring we can feed the million with such fish as they are used to, and can enrich the State beyond peradventure. Give us "*the greatest good to the greatest number*," and we are satisfied; and that will only be by furnishing to the public at large—from Maryland—(around the world,) at the least possible cost, the largest amount of nutritious food. We cannot do this with salmon, for many reasons: 1st. Because our waters are not its natural habitat. 2d. Expense in hatching them. (The expense stands about as 1 to 100 in favor of shad—or, to put the assertion in shape so as to be intelligible to all, we will say that the cost of raising 10,000 salmon would turn out 1,000,000 shad. 3d. After we have cultivated salmon, our people would then have to cultivate a taste for them.

We did not expect, Mr. Editor, when we sat down to write to have written the half we have, but still we cannot consent to close this paper without paying some attention to Mr. Alexander Kent's article in the December number of the *Farmer*, for the reason that we fear that Mr. Kent might think that "Lower Maryland was naughty." Mr. Kent says: "The salmon fisheries of the Columbia river were worth last year $4,000,000." We have looked over all the Reports of the Commissioners of Fisheries that we have on hand since 1870 to the present day, and can find no figures that would justify the gentleman in making such a statement. We hope Mr. Kent will allow us to ask him for official documentary evidence of that fact. POTOMAC.

Charles County, Md., Dec., 1874.

[TO BE CONTINUED.]

ADDITIONAL LIST OF FISHERIES.

Susquehanna River Fisheries.—Wood Island, 2; Kens' Island, 2; Spencer's Island, 2; Snake Island, 1; Lapidum, 1; Silver's Battery, 1; Ewing's Battery, 1; Michael's Battery, 1; Watson's Island, 2;—13.

Chesapeake Bay Fisheries.—Saller's Battery, 2; Old Bay, 1; Point Concord, 1; Hoke's, 1; Osborn's Battery, 1; Plum Point, 1; Lewis's Cove, 1; Cherry Tree Lane, 1; Sandy Beach, 1; Stony Point, 1; Taylor's Island, 1; Cranberry, 1; Indian Cabin, 1; Bull's Mountain, 1; Mauldin's Mountain, 1; Red Point, 1; Green Banks, 1; Carpenter's Point, 1; "and one or two others, names unknown," 2;—21. 34, worth——?

"From Wood's Island to Lapidum, inclusive, are small fisheries, the operating expense from $300 to $500. From Silver's Battery to Carpente'rs Point, both inclusive, are large shores and batteries, and the operating expense would aggregate nearly the amount that the same number of shores would on the Potomac, beginning the count at Moxley's Point and taking each side of the river down." This would be about from $1,000 to $3,000 per annum for each shore, besides rent.

Poultry Yard.

The Best Poultry for General Use.

In answer to this question, a correspondent of *The Poultry World* says he has arrived at the conclusion that the BRAHMAS, all things considered, are the best for general purposes, for the following reasons:

I have found them the best winter layers, if started early in the season; this is the time of the year when eggs are in the greatest demand, and the price then realized is fully double, for ordinary family consumption. I find that it costs but little more to keep them in winter than in the summer season; and for limited premises, where fowls cannot enjoy a good range, the expense in any portion of the year varies but slightly.

Good care under all circumstances, and at all times, is a prime necessity to success in breeding fowls. These larger birds need no better treatment than do the smaller varieties. At an early age, the cocks are ready to kill and they average much larger chickens, for market uses, at a time when dead poultry brings the best price in the cities, than do small breeds.

As mothers, the Brahma hens cannot be excelled. The chickens are hardy, they make a fine table fowl if properly fed and strictly cared for from the shell; and, when in good condition, in the early fall, they will dress from ten to twelve pounds the pair (often heavier), which is almost twice the dead weight of average marketable chicks, now-a-days, of the common varieties. This extra weight will far more than compensate for the extra cost of good care and keeping; and the Brahmas may be limited to narrow confinement, by enclosure with a four-post high fence, which is a consideration of consequence in many locations.

I find it necessary, in order to raise good average birds, and fit them for the spit at the most profitable time of the year, that my personal attention to their needs, and constant care of their health, is requisite. No live stock is worth the trouble and cost of its keeping that is not attended to regularly, systematically, and faithfully—whether for marketing or for competition. Domestic fowls will not "take care of themselves," to advantage. The lack of this kind of treatment is the leading cause of failure with many who undertake to raise fowls, which must be thus attended to, at all seasons, to succeed with them. As to feeding, of course corn and meal must serve as staple food. If buckwheat, barley, and oats can be purchased at average reasonable prices, these should be fed, in lieu of too much corn; as these latter grains are not so fattening, and birds will thrive better with varied food. Whole wheat is also excellent; broken wheat, for chickens, in their younger periods.

Sunflower seed, which can be easily grown in profusion around your fences and walls, without

any trouble, save the covering of the seed in spring, is an admirable alterative, and fowls are extremely fond of this. I feed it twice a week, at least, and find it excellent. I give my fowls corn meal and "fine feed," scalded, in equal proportions, in the morning. Into their mush I sprinkle fine salt and red pepper, occasionally. At night I give whole grain. Two meals a day (as much as all can eat up clean), I find better than more; but regularity, every day, is my custom, and fresh, pure water is kept always before them, of which domestic birds drink freely, when they can have ready access to it.

Fowls in confined quarters should be supplied with plenty of green food, daily. Without this they can never be kept in high health. If their range is limited, fresh meat, liver, scraps, or the like, should be given them daily. They must have animal food to keep them in good condition. Iron may be given in their drinking water, occasionally, to good advantage; and plenty of clean gravel, pounded oyster shells, etc., is also a necessity, where they are kept in limited runs. I make it a rule to cleanse the floor of my houses *daily*, in spring, summer, and fall, and once a week I sprinkle air-slaked lime upon the ground. Then you always have a clean, sweet house, and are not pestered with vermin. In winter I cover my hen-house floor with two inches of fresh loam, or fine gravel-sand. The droppings from roosts, etc., are raked up daily. Every fortnight these floors should be carefully cleaned out, and fresh sand or loam spread again.

Twice a year, at least, I whitewash the inside of my houses thoroughly, and in summer I close them all tight, once or twice, and smoke them with burned sulphur. I also apply kerosene once or twice a month to the roosts. This latter plan will keep your poultry free from lice, and is the best mode I know of to effect this object.

Dust baths are highly essential, where fowls are restricted to limited space, at any season. The laying hens' nests should be very thoroughly cleaned out, three or four times during the season.

Spangled Leghorns.

A correspondent of the same paper says the Spangled Leghorns were, so far as I know, first bred in this country in 1872, from Italian stock imported in 1871, and from the start have attracted great attention, many pronouncing them superior in beauty to any other of the Leghorn tribe, and all who have bred them extolling their vigor, early maturity, and wonderful laying qualities.

The plumage is pure brilliant black and white, each feather (excepting primaries and secondaries, which are entirely black) being white tipped, instead of the reverse, as in Silver-spangled Hamburgs. The ear-lobe is white, comb perfectly erect and five-lobed in cock, lopping finely in hen; beak, skin, and leg bright yellow. The birds seem to breed very true, one breeder claiming (and, I think, with justice,) that 4-5 will come true to feather. Certain fanciers, perceiving the future importance of this breed, have attempted to produce an imitation by crossing Black and White Leghorns. We can say that, in every case which has come to our knowledge, the experiment has been a total failure. Nearly all the offspring of the first cross have been almost or entirely white, often with dark legs and bills—a measly mixture. When black and white feathers have appeared, they have usually been *black tipped*, thus showing that the true spangled bird is not the result of a cross.

Good Farming in the Old North State.

Mr. T. B. Kingsbury, in the *State Agricultural Journal*, gives the following account of the successful farming of Dennis Tilley, Esq., of Granville Co., N. C. Mr. K. says:

Mr. Tilley has received higher prices for the crops of tobacco made during the last six years than any other man in the United States. He averages annually over $1,000 to every hand on tobacco alone, besides raising wheat for market, and all the corn, oats and meat that his large family consume. He has received as high as $175 per 100 lbs. of leaf, *and an entire crop has averaged over* $100 *to the hundred pounds.* He sold at one time in Richmond, Va., 19 tierces, obtaining $87 for his twist and $131 for his highest grades. He simply leads the world.

Mr. B. F. Hester, of the same county, has averaged for four years $4,000 for the tobacco made by *two men and two boys.* There are a dozen others in the same county who either surpass or approximate these figures. Such is Granville farming as is known to the writer, one of her sons resident in Raleigh.

These superior farmers raise a great deal of home manures, purchasing moderately of fertilizers. Two boys aged respectively 15 and 17, sons of Mr. Mitchell Curtin, assisted by a sickly brother about 12 years of age, who only worked a part of his time, obtained over $3,000 net, at Milton, N. C., for the tobacco they raised. They expended $5 for extra help and $75 for fertilizers. The tobacco was sold for them by Col. John Winterson, now of Durham.

We would ask our Northern friends, who may be disposed to "go West," to ponder upon such facts as these, and, if they are wise, they will find it a hundred times better to locate in the honest old North State, than encounter the difficulties of a new settlement in the West, to say nothing of the rigors of the climate.

General L. Giddings, whose sale of a portion of his farm, near Annapolis, to a gentleman from Canada, was noticed in a recent number, during a late call at the *Farmer* office informed us that the purchaser is not only much pleased with the location, the climate, &c., but that he is recommending to some of his Canadian correspondents an imitation of his course—the winter in the Dominion having already been very severe, whilst here he has so far experienced scarcely any weather worthy of that name.

General G., who has not of late contributed anything to the pages of the *Farmer* from the occupations of building, &c., promises soon to favor us in that way, and to make up for the lost time. He loaned a copy of the *old Farmer* to the new comer, who has since sent on his subscription.

A COLLECTION OF TOMATOES.

From Mr. Vick's beautiful Floral Guide, for 1875, we give the above engraving of some well known varieties of this vegetable. No. 1 is the Cherry Tomato, useful only for Pickling; 2, Persian Yellow, large, solid and of delicate flavor; 3, Hathaway's Excelsior, early, medium to large, smooth as an apple and the best Mr. V. has ever grown; Gen. Grant, superior, good size, rather flat in form, ripening rapidly and thoroughly; 5, Early Smooth Red, medium size, fair quality and productive; 6, Hubbard's Curled Leaf, earliest of all—which is its only virtue, being rough and small. These descriptions are Vick's own, and will differ, of course, in other sections and under varying treatments.

Useful Recipes.

Hog Cholera.—A correspondent of the New York *Tribune*, who last year lost fifty hogs by what is known as "cholera," has this year succeeded in preventing any appearance of disease by administering the following medicine. He procured 1½ pounds sulphur, 6 ounces saltpetre, 4 ounces black antimony, 6 ounces copperas, and 2 pounds soft soap. A number of troughs 10 feet long, 8 inches wide, and 5 inches deep, were also obtained. A quantity of bran and shorts, sufficient to give a small feed to each hog, was placed into a box and moistened with water in which the copperas had been dissolved; the other solid ingredients were then powdered, and with the soft soap were evenly mixed with the bran and shorts. The whole was then distributed in the troughs and given to 100 hogs once a week. Not only was cholera prevented, but the hogs were kept in a hearty and thriving condition.

To Prevent Tools Rusting.—Dissolve half an ounce camphor in one pound of hog's lard, take off the scum and mix as much black lead as will give the mixture an iron color. Iron and steel, and machinery of all kinds, rubbed over with this mixture and left with it on for twenty-four hours, and then rubbed with a linen cloth, will keep clean for months.

Ointment.—Take three carrots and grate them; place in a vessel and cover with lard, without salt, if convenient; boil thoroughly, strain and add sufficient beeswax to make a paste.—This is a most invaluable ointment for cuts, burns, scalds, or wounds of any kind.

Treatment of Spavin.—There are two kinds of spavin—blood spavin and bone spavin. The treatment for bone spavin will be, first to remove the hair with a scissors from the tumor or bunch, and then rub the part for twenty minutes with a little of the following ointment: Cantharides, pulv., 2 dr.; biniodide of mercury, 1 dr.; lard, 2 oz.; mix. After the part has been thoroughly rubbed with the ointment, tie the colt's head up for twenty-four hours, so as not to bite the dressing. Apply lard or oil on the third day, and every few days after, until the scab drops off.—*Live Stock Journal.*

For Destroying Insects and Vermin.—Two pounds of alum, dissolved in three or four quarts of water, will destroy most insects, whether in-door or out-of-door insects. It should be used while nearly boiling hot, to every crevice of the closet, bedsteads, pantry, floor-boards, etc., where vermin are suspected. If used in whitewashing walls or ceiling, it will keep insects away, and cockroaches will not approach paint washed with cool alum water.

Roup in Fowls.—In the *Poultry World* is given this method of treating this disease. "If any of the fowls breathe hard, snap their heads, or run at the nostrils, give a teaspoonful of castor oil. If their nostrils are stopped up and they make a whistling sound or open their mouths to breathe, make a strong suds of castile soap and lukewarm water, and with a small sponge wash out the mouth and throat, clean out the nostrils, then give the oil." We advise those troubled with this disease to try this remedy.

Health and Strength.

BY JANE BOSWELL MOORE.

Some years ago I was in Canada, visiting Montreal and Quebec, and seeing the noble St. Lawrence and its hardly less wonderful Victoria B idge; the Rapids of Lachine; the citadel and fortifications of Quebec; the Falls of Montmorenci, and the Natural Steps. On my way to the latter we passed through the French village of Beauport, with its lofty church towers. I could do nothing but gaze at the children of the peasants we met on our way. I had previously thought English and Scotch children models of health and bloom, but at the sight of these I could only laugh. Such breadth of shoulder and figure I had never imagined, and how sturdy and strong they were! Most American mothers would have thought them very unrefined, far, very far from genteel in apppearance; but there are some Americans who know that the power, the comfort, independence, happiness and good humor which should result from good health are of far more value than the admiration which unthinking people give to fragility of figure and general delicacy. There, undoubtedly, is a great inferiority on the part of American children in strength,—and *one* great cause of the difference is, our wrong ideas as to food. As a people, we like and eat bread of the finest, whitest flour, rich pastry and cakes, candies and stimulating food and drink. We do not study the tables of food nutriment, that we may know what is best for those who are young and forming bone and teeth. Too often when we do know what is ruinous to our children, born and unborn, and will give them impaired constitutions, we prefer self-gratification. A writer of note, a dentist, says:—"The fine flour of which our bread is made contains only thirty parts in five hundred of material for teeth, while the whole grain, such as wheat, contains eighty-five parts, and the bran separated from it by bolting contains one hundred and twenty-five parts, even after the skin or hull is removed." Among the best muscle and bone-making articles of food especially needed for the young, we find barley, giving nearly thirteen per cent. of nitrates and forty of carbonates; beans twenty-four per cent. of nitrates and forty of carbonates; peas twenty-three of nitrates and forty-one of carbonates; Smith's excellent preparation of crushed wheat from the Atlantic Flour Mills, of Brooklyn, about fifteen per cent. of nitrates or muscle-making elements, sixty-five to seventy per cent. of carbonates, heat or fat-producing elements, and two per cent. of phosphates. A popular idea has been that arrowroot is very nourishing for infants, but it is only a variety of starch, and of itself cannot give strength. The ration of the victorious Romans consisted of natural grains of wheat, or other cereals, bruised, roasted, or cooked with a little fat. The legions of Severus marched from Vienna to Rome, eight hundred miles, over rugged roads, in forty days—occasionally they had vegetables and meat.

Domestic Recipes.

ICING CAKE.—Take fresh eggs, according to the quantity of cake to be iced, separate them, beat the whites till very stiff, stir in finely powdered sugar till quite thick, add some rose water, after which place the bowl of icing in a kettle of boiling water, stir it constantly till it comes to a boil, then ice your cake with the warm icing, which will harden very quick; take stiff, white paper, rolled funnel-shaped, into which put some icing, and, by pressing it through the small aperture, you can make flowers, letters, dots, or any figures you fancy.

BOILED SWEETBREADS.—The best way to cook sweetbreads is to boil them thus: Parboil them, and then put them on a clean gridiron for broiling; when delicately browned, take them off and roll in melted butter in a plate to prevent their being dry and hard. Some cook them on a griddle, well buttered, turning frequently; and some put narrow strips of fat salt pork on them while cooking.

TO STUFF A HAM.—Parboil and place the ham on a tray; make incisions over it with a sharp knife some two or three inches deep, and stuff these with a dressing made of crackers cooked to a brown crisp and crumbled fine; add salt, pepper, egg, butter, parsley and onion chopped fine, then bake it brown in a moderate heat and serve when cold.

TO BAKE A TURKEY.—Let the turkey be picked, singed, washed and wiped, inside and out; joint only to the first joints in the legs; then cut a dozen small gashes in the fleshy parts of the turkey, and press one whole oyster in each gash; then close the skin and flesh over each oyster as tightly as possible; then stuff the turkey, leaving a little room for the turkey to swell. When stuffed sew it up tightly, rub over lightly with flour, sprinkle a little salt and pepper on it, put some water in your dripping pan, put in the turkey, baste it often with its own drippings; bake to a nice brown; thicken your gravy with a little flour and water. Be sure and keep the bottom of your dripping pan covered with water, or it will burn the gravy and make it bitter.

STUFFING FOR A TURKEY OR CHICKEN.—Take some bread crumbs and turn on just hot water enough to moisten them; put in a piece of butter not melted, the size of a hen's egg, add a spoonful of pulverized sage, a teaspoonful of ground pepper and a teaspoonful of salt; there may be some of the bread crumbs that need to be chopped; then mix thoroughly and stuff your bird.—*Germantown Telegraph.*

PARTRIDGE PIE.—Line a deep baking-dish with veal cutlets; over these place thin slices of ham and a seasoning of pepper and salt. Pluck, draw, wipe, and quarter four partridges; rub each part with a seasoning of pepper, salt, minced parsley, and butter; place them in a baking-dish and pour over them one pint of strong soup-stock; line the edges of the dish with a light puff paste; cover with the same; brush it over with the yolk of an egg, and bake for one hour. If the paste is in danger of becoming too brown, cover with a thick paper.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

BY SAML. SANDS & SON,

9 North street, near Baltimore street, Baltimore, Md. (sign of the Golden Plow.)

SAML. SANDS, WM. B. SANDS, } Editors and Proprietors.

SUBSCRIPTION, $1.50 a year, in advance. To Clubs of five or more, $1.00 each. For $10, eleven copies will be sent.

For postage, 10 cents must accompany each name sent, whether singly or in clubs.

ADVERTISING RATES.

	1 *Mo.*	3 *Mo.*	6 *Mo.*	1 *Year.*
One Square, 10 lines.....	$ 1.50	$ 4.00	$ 7.00	$ 12.00
Quarter Page.....	6.00	15.00	22.50	35.00
Half Page.....	12.00	25.00	40.00	70.00
One Page.....	20.00	45.00	75.00	120.00

Cover Pages subject to special contract.

Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 20th of the month, to secure insertion in the succeeding issue.

JANUARY 1, 1875.

The New Volume of the Farmer.

We are glad to be able to announce, and our friends will be glad to hear, that at the time we go to press, the subscriptions received for the new volume are over 50 per cent. in advance of those received up to the same date last year. This, in view of the general stringency of money matters, is very gratifying. We hope it will encourage all our well-wishers to keep the ball in motion.

MR. GEO. C. GILMOR, of Albemarle, Va., seems to miss some of our correspondents. In a private note he says: "Where are many of our friends whose articles so delighted and instructed us? Are they sleeping while there is so great a necessity for being wide awake, or have they gone to their last, long homes, or by sad reverses been driven from among us? God being willing, I will give you an article on the Grasses and Sheep for your February No. I fondly hope all, from every class, will each give in his little mite by which we may gather around us more prosperous times than we have had of late." [All of our friends and readers will, we hope, remember that we are always glad to hear from each of them, and that not only "to do good," but "to communicate," is the duty of all.—*Eds. A. F.*]

BILLS.—To some of our subscribers who are considerably in arrears, we send in this No. bills of their indebtedness. Unless we receive the amounts due before another issue, we shall be compelled to stop the papers sent to their address. We hope there will be few cases where this will be permitted.

JUSTICE TO OUR CORRESPONDENT *Freedom*, requires us to say, that the somewhat abrupt termination of his third paper on the "True Theory of Farming," given elsewhere in this issue, is our fault and not his. By confinement to a sick bed he was delayed from completing it, and by the time it reached our hands this number of the *Farmer* was almost entirely made up, and we were obliged either to separate it, or defer it until next month. Unwilling to break in upon the regular appearance of the series, we took the liberty of adopting the former course.

It would be well, perhaps, for us here, in anticipation of the development of *Freedom's* theory, to say that, while we admire his talents and applaud the fearless handling of his subject, we are not sure that we can endorse him throughout, and it is not improbable that we may feel called upon to review some of his positions. That the ground he occupies will be assailed by others is probable enough, and is, doubtless, anticipated by himself. Indeed, elsewhere will be found an illustration of the closeness with which his series is being followed.

Whilst on the subject, we must call attention to the paragraphs on the mission of plants, which next precede the final one in this number, as a specimen of eloquent writing on what some may consider a dry subject.

OUR CORRESPONDENT "POTOMAC" thinks we owe an apology to Mr. Seth Green. Our statement in the November *Farmer* that that gentleman proposed to charge the Fish Commissioners of Maryland for the use of his boxes a sum which would nearly absorb the whole fund at their disposal, was based upon information received from a source worthy of all credence, and has since been reaffirmed. We did not mean in any way to detract from Mr. Green's character for liberality, which is well established. Besides this he has done more for fish culture than any other man in America, and we do not consider that in charging a large sum for the use of his invention, by any State, he would be doing anything that is not just and fair.

☞ THE POULTRY SHOW of the Maryland Association, which takes place on the 5th-8th instant, promises to be a great success.

Death of Gen. Tench Tilghman.

We regret to have to announce the death of this gentleman, well known in this State as an active and public spirited citizen, who has held a number of important positions in Maryland affairs, and at one time the office of President of the United States Agricultural Society, which in the time of its existence, usually met at Washington. Gen. Tilghman took a lively interest in everything pertaining to agriculture; and an evidence of his philanthropy and kind heartedness, which came under our personal observation, was related in an account published last year in the *American Farmer*, of the first *successful* introduction of the Reaper and Mower. The General subsequently informed us, that at one time he was offered an interest in the patent, but his engagements at the time prevented its acceptance—had he done so, however, he might have died a millionaire.

Fertilizer Advertisements.

Messrs. R. W. L. Rasin & Co. have secured for the year the very advantageous position on the fourth page of our cover, and there prominently offer to the agricultural community a number of fertilizers. They inform us that besides their works in this city, they have in Texas probably the largest bone establishment in the world.

Mr. Joshua Horner, Jr., whose advertisement of Bone Dust and Meal, Super-Phosphate, &c., is to be found renewed in our advertising pages, is one of the oldest establishments offering bones in this market, and we learn from Mr. H. that his sales of Phosphate are largely on the increase.

Mr. Walter Hammond has begun the manufacture of a Super-Phosphate, which he commends to the public.

Messrs. Peter Henderson & Co., of New York, offer a fertilizer, which, from its composition, ought to be very effective.

Messrs. Slingluff & Co. and R. J. Baker & Co. offer Oil of Vitriol and Chemicals, for making fertilizers. The former house offers to make up, from formulas furnished, compounds warranted free of adulteration.

Mr. J. J. H. Gregory, of Marblehead, Mass. has his annual advertisement in our columns He was the original introducer of some of the best vegetables now found on every table. He comes this season with a new squash, and a number of tempting specialties, some of which are finely illustrated from engravings taken from photographs. The fact that so many of his varieties of seed are of his own growing, is a golden fact for farmers and gardeners.

Pamphlets, &c., Received.—From Major Richard V. Gaines, of Charlotte, Va., a copy of his *Address at the Commencement of the Va. Agricultural and Mechanical College*, August, 1874. Published by request of the Board of Visitors. We hope hereafter to make some extracts from this address, which in a masterly manner treats the subject of Education.

From L. Tucker & Son, Albany, N. Y., *The Annual Register of Rural Affairs for* 1875, price 30 cents. This little work contains a large number of illustrations and treats of a great many subjects. The article on the circle of the fruits is especially interesting and instructive.

From D. Landreth & Son, Philadelphia, *The Rural Register and Almanac for* 1875, wich they publish annually for gratuitous distribution. A modest work which contains a great deal of useful and reliable information.

From W. F. Massey & Co., Chestertown, Md., *Catalogue for* 1875 of Flowering and Vegetable Plants, Flower Seeds, Small Fruits, &c., and *Circular of Dollar Collections of Plants by Mail*, a specialty with this firm which brings their greenhouses to the doors of far-off country folks.

The Scientific American, published weekly by Munn & Co., 37 Park Row, New York, at $3.20 a year, including postage, is a paper indispensable to every one who desires to keep advised of the discoveries in science and the achievements of the practical arts. Special attention is given to subjects connected with the Patent Laws and the interests of inventors, but its contents embrace every department of useful knowledge, and no farmer, mechanic, or housekeeper, who reads it, but will be benefitted to many times the amount of its cost. It is bountifully and beautifully illustrated, and of late one of its specialties has been well-executed engravings of new or rare plants. The one given in the frontispiece of our present issue is an example of their excellent style, having been reproduced by it from an English journal.

St. Nicholas for January. This magazine for boys and girls continues if possible to improve with each number, and has a success such as no juvenile periodical has, we believe, ever attained. The illustrations are charming, and the editor certainly seems to understand what suits and pleases the children. No family ought to be without it where there are children of any age. Subscription, $3 a year. *Both* this and the *Monthly*, are published by Scribner & Co., 654 Broadway, New York.

The School-Day Magazine.—An old established youth's paper, is this year enlarged and otherwise improved. The departments are varied and well filled and the engravings numerous. The subscription price is $1.50, including a chromo. J. W. Daughaday & Co., publishers, Philadelphia.

Farmers' Convention of Montgomery County, Maryland.

The annual convention of farmers and others interested in agriculture, will be held at Sandy Spring on the 14th instant. We are indebted to the officers for an invitation to be present and hope to be able to accept, that we may lay before our readers a report of the proceedings, which doubtless will be full of interest, as this section of Maryland embraces many of our most intelligent and thorough farmers.

Besides reports upon several subjects from committees appointed last year, the following questions will be proposed for discussion by the convention:

1. Shall we apply lime; and what kind?
2. To what extent is it profitable to use commercial fertilizers?
3. Can we change our present rotation of crops to advantage?
4. Does pasturing land after harvest injure the succeeding crop?
5. On a Butter Dairy farm, what is the most profitable time for cows to calve?
6. Has farming suffered more proportionately than other pursuits in the business depression of the past year?

TOBACCO FERTILIZER.—A subscriber in Appomattox county, Virginia, asks us to give a formula for a good tobacco fertilizer, the base of which shall be fine ground bone. Can any of our readers supply one of tested value?

Extracts from Correspondence.

A subscriber in Northumberland county, Va., O. H. C., in renewing, gives the following practical illustration of the value to him of the *Farmer*:—"I cannot do without the *Old Farmer;* its monthly visits are as necessary to me as my morning coffee."

Another, J. G. R., in Halifax county, N. C., in remitting, says:—"You see I still stick to your valuable periodical, which I regard as the best of the good."

Another, in Rappahannock county, G. H. B., in sending a portion of last year's club, writes: "There are several of my club I have not yet seen, and hope to add them hereafter. I am sure, if they feel the interest in the *Farmer* that I do, they will not hesitate."

A young subscriber in Norfolk county, Va., W. E. J., writes:—"My father, like the senior editor, is now an old man, having lived over three-score and ten years, and he told me a few evenings since that when he was no longer to be numbered among the living that I would fill the vacant place in your books made by his loss. He was a subscriber when Mr. Skinner was its editor, and I hope may live to take it still for many years." [We pray that he may.—*Ed. Far.*]

A subscriber from Camden, S. C., J. M., writes: "I enclose P. O. order for $1.50 to renew my subscription to the *American Farmer*. I am the representative of one of the *oldest subscribers* to the *Farmer*, D. M., whose name you will find on the first list, if in your possession, and take great interest in its prosperity. I am happy to see that it sustains its reputation, and would be glad to add some names to its subscription list, but we are in such a disorganized condition here that it is difficult for some of us to spare the small amount necessary. There is, however, a new class of our population who are now taking the place of the *old planters*, and who are opening their eyes to the advantages of an improved cultivation and to the assistance which agricultural periodicals give to it, and among whom their circulation may be extended before long. Your well-wisher."

HAIR DYES DANGEROUS.—Cases of paralysis resulting from the use of hair dyes are counted by the score. The New York Board of Health, a year or two ago, warned the people of dangers from this source. The chief medical officer of the Brooklyn Life Insurance Co. states that a few years ago that Co. paid a policy on the life of a man who, a post-mortem examination demonstrated, killed himself by dyeing his hair.

SCRIBNER'S MONTHLY FOR JANUARY begins the year with promise of still greater success than has followed it in the past. Its serials, shorter tales and sketches, records of travels, illustrated in the best style of pictorial art, its editorial departments, are all of such a character as to combine to place it in the highest position among our American magazines. For the present year some new features are promised, and additional attractions, which will make it more welcome than ever to intelligent readers. Among the papers promised for this volume is an illustrated series by Col. Waring of Ogden Farm, "A Farmer's Vacation in Europe," which will be received with much gratification by all interested in rural affairs in our own country.

Meeting of Maryland Dairymen.

A meeting of a number of Dairymen of the several counties was held on the 18th of Dec., in this city, to consider some method of co-operation by which the price of milk may be regulated, the sale of impure milk prevented, and some standard of measurement in sales of their product established. After some exchange of views a committee of five was appointed on each of the railroads and principal turnpikes leading into the city, who were directed to call local meetings of dairymen in their respective neighborhoods, which meetings will choose delegates to assemble at a general meeting to be held here on Tuesday, 5th instant.

The American Dairymen's Association

Will hold its annual convention this year at Utica, January 12th, 13th and 14th. The subjects for discussion will include all the leading topics of interest to the modern dairyman and manufacturer, and it is expected that a profitable and interesting meeting will be held.

Meeting of the National Grange.

The National Grange, Patrons of Husbandry, of the United States, will commence its annual session in Charleston on the first Wednesday in February, 1875. The *Rural Carolinian* says: It will be a great occasion for this city, for the State of South Carolina, and for the South generally—indeed, we may say, for the whole country, since it will promote, as nothing else could, the true unity of the Republic and fraternal feeling and kindliness among the people of all parts of our land. It will bring here representative men from every State and Territory of the Union, and from the British Provinces, all working together for the common good and all bound to each other by the most sacred obligations and the closest brotherly ties. The spectacle will be impressive and its significance of the gravest import. The representatives of the Granges come here for work, and that work will be of the most serious and important character. We trust it will be wisely performed. But we believe in recreation as well as in work, and the Patrons of Charleston and of the State intend to provide such means of recreation as will make the visit of our brothers and sisters from abroad as pleasant as we have no doubt it will be profitable. Next month we hope to be able to give our programme of reception and entertainment in full. In the meantime, brothers and sisters of the North, the South, the East and the West, be assured that a warm, hearty, fraternal welcome awaits you in this famous old historic "City by the Sea." We open the doors of our homes and our hearts with true Southern hospitality to all who come with the pass words and signs of the "Noble Order of Patrons."

The Pennsylvania Fruit-Growers' Society.

The annual meeting of this very useful association is to take place on the 20th instant, at York, Pa. Comprising in its active membership many of the most prominent scientific and practical men of this section of the country, its sessions are always very instructive. We hope, as usual, to have a representative of the *American Farmer* present, in order that the proceedings may be reported for our readers.

The Prince Frederick Grange of Calvert Co., Md., have elected the following officers: Dr. George H. Jones, master; William D. Skinner, overseer; B. C. Hutchins, steward; R. H. Hagner, lecturer; Rev. J. R. Vanhorn, chaplain; C. S. Parran, secretary; C. M. Williams, treasurer: R. King, gate-keeper; Geo. T. Freeland, assistant steward; Mrs. George H. Jones, ceres; Miss M. Skinner, pomona; Mrs. Wm. H. Bowen, lady assistant steward.

To A Correspondent who inquires as to the relative value of ashes and the crude potash of commerce, we would say that a pound of the latter contains as much potash, probably, as a bushel of hard-wood ashes, if unleached. The latter, however, have some ingredients which are of value as fertilizing agents, as soda, sulphuric acid, &c.

Super-phosphate of Lime.

Dr. Anderson gives the following proportion of bones and acids to be used in making super-phosphate on the small scale:

One ton of inch bones, one-quarter ton of sulphuric acid, sixty gallons of boiling water. Utensils requisite, a cistern of lead and a watering can of the same metal. A small quantity of the bones should be spread upon the bottom of the cistern, and the sulphuric acid poured in from the leaden watering can, at the same time that a proportionate quantity of water is added from another can. More bones should then be thrown in, then more acid and water, in short the process should be managed so as to mix the bones and acid as uniformly as possible. The mixture should be allowed to stand for some days before it is employed, and it should then be mixed with some dry peat or soil in order to properly divide the mass.

Baltimore Markets, Dec. 30.

The quotations below are Wholesale Prices.

Breadstuffs.—*Flour*—Demand moderate and transactions light. Howard Street Super $4.00@4.50; do. common to fair Extra $4.75@5.00; do. good to choice do. $5.12@5.25; do. Family $5.50@6.50. Ohio and Indiana Super $4.00@4.50; do. common to fair Extra $4.75@5.00; do. good to choice do. $5.12@5.25; do. Family $5.50@6.25; City Mills Super $4.00@4.50; do. low to medium Extra $4.75@5.50; do. Rio brands do. $6.50@6.75. City fancy brands $8.25. Fine flour $3.50@3.75; Rye flour $5.25@5.75; Corn Meal, City Mills, $4.50; Western $4.00. Buckwheat Meal, N. Y., $3.00@3.25; Penna. and Md. $2.75@3.00 per 100 lbs.

Wheat.—Offerings of Southern light, and market quiet. We quote Maryland white at 122 cents for fair; do. good red 125 cents; do amber 130@134 cents. Western winter No. 2 red, in elevator, 121@122 cents; do. No. 2 spring red 107½ cents.

Corn.—Southern dry in demand; damp lots dull. Western lower. Sales of Southern white at 77@80 cents for damp; 82@83 cents for dry; do. yellow 78@82 for damp and dry; prime Western mixed 83 cents.

Rye.—Sales at 97@100 cents for good to prime.

Oats.—Dull and heavy, with sales of Western mixed at 63 cents.

Cotton.—Offerings light and market weak. We quote prices: Middling 14@14¼ cents; low middling 13¾@13⅞ cents; good ordinary 13¼ cents.

Hay and Straw.—Receipts heavy. We quote Cecil Co. Timothy, baled, $20; Md. and Penna. prime do. $18; do. mixed $15@17; do clover $13@14. Wheat Straw 29; Oat do. $12@13; Rye do. $13.

Mill Feed.—City Mills Brownstuff $25 per ton; do. middlings $24 per ton.

Onions.—Supply light; prices firm. Red quoted at $3.25 per bbl. No Yellow or White in market.

Provisions.—Generally dull. Bulk Meats in good supply. Shoulders 7½@7¾ cents; Sides 9¾@10 cents for fully cured; 6¾ cents for shoulders and 9¾ cents for Sides partly cured. Bacon Shoulders 9¾ cents; clear-rib Sides 12 cents; Hams 14@15 cents; Western Lard 13¼@13¾ cents; City refined 14@14¼ cents. Mess Pork dull at $20 per bbl. **Butter.**—N. Y. firkins and tubs 40@42 cents; Glades, extra dairies, 34 cents; Western rolls, choice, 30 cents; nearby receipts, 28@30 cents. **Cheese.**—Choice Eastern Factories 16¼@16½ cents; good to prime do., 15½@16 cents; Western, choice, 15¼@15¾ cents. **Eggs.**—Market overstocked. Fresh, 27@28 cents; Limed, 18@19 cents per doz.

Rice.—Carolina 7¼@7¾ cents. Rangoon 7 cents.

Salt.—Liverpool $1.05@1.15 for Ground Alum; $1.90@2.00 for Fine; Turk's Island 28@30 cents per bus.

Seeds.—Clover 9¼@10 cents per lb. Timothy dull at $2.60@2.75 per bus.

Tobacco.—Inspections have been light as usual at this season. Quotations are as follows: Maryland frosted $6.50@7.50; sound common $8.00@8.50; good do. $9.00@9.50; middling $10.00@11.00; fancy $15.00@20.00; Virginia, common and good lugs $6.00@8.00; common to medium leaf $8.50@10.00; prime to good $10.00@12.00; selections, shipping, $13.00@16.00.

Whiskey.—$1.00@1.01 for Western.

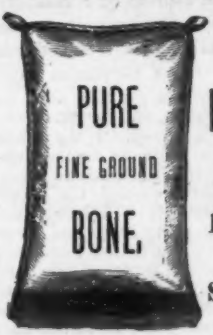
Wool.—Receipts light. Unwashed 34@36 cents; washed 50@55 cents; Burry 30 cents.

Contents of January No.

NEW ADVERTISEMENTS.

Joshua Horner, Jr.—Bone Dust—Bone Flour.
do. do. Super-phosphate.
R. W. L. Rasin, & Co.—Fertilizers.
Slingluff & Co.—Oil Vitriol and Chemicals.
Peter Henderson & Co.—Blood and Bone Manure.
R. J. Baker & Co.—Oil Vitriol, Chemicals, &c.
Walter Hammond—Super-phosphate.
J. J. H. Gregory—Seeds.
W. H. Spooner—Seeds.
S. L. Allen & Co.—Planet Drills and Hoes.
Canton Tea Co.—Teas.

R. J. BAKER & CO.



MANUFACTURERS AND IMPORTERS OF

Pure Ground Bone

AND

CHEMICALS

FOR

FERTILIZERS.

36 & 38

South Charles St.

BALTIMORE, MD.

Potash Salts,

OIL VITRIOL,

Nitrate of Soda.

jan–ly]

GRANGER CULTIVATOR.

To the FARMERS of Maryland, Virginia and North Carolina.

I offer you for the next season the Granger Cultivator, with out tongue or wheels. It has been fully tested in Virginia and the Western States without a single instance of dissatisfaction. A man and team can cultivate ten acres a day. It is invaluable for putting in crops of Wheat, Oats and Rye, and for the cultivation of CORN, TRUCKS, TOBACCO, ORCHARDS, &c. It is the *Lightest, the Best, and the Cheapest*, and costs $10 less than any other Walking Cultivator. It can plow from 2 to 8 inches deep, and throw the dirt to or from the row, each shovel throwing as much dirt as a small one-horse plow.

TESTIMONIALS.

BROWN'S STORE P. O., VA., July 17, 1874.

MR. R. L. HARVEY—*Dear Sir*:—Your enquiry of my opinion in reference to the operation of the Walking Cultivator is, that I consider it decidedly the *best implement I have ever seen to work corn*, and, I believe, many other crops. It enables the farmer to control a large crop of corn with little labor, *does its work perfect*, and will become in general use wherever introduced.

Respectfully, E. BROWN.

KILMARNOCK P. O., VA., Aug. 19, 1874.

MR. R. L. HARVEY—*Dear Sir*:—You wish to know how I am pleased with the Granger Cultivator that I used this year; in reply I answer that if *I had to be without one I would stop raising corn*. I have tried it thoroughly in stiff and light land and in wire grass, and find it does as good work as any single-horse plow, besides four times as much. Very respectfully yours, &c.,

HORACE L. BALL.

PRICE $25.00.

Address

R. L. HARVEY,

SOLE AGENT for Maryland, Virginia and N. Carolina,

REHOBOTH CHURCH,

jan-5t] **Northumberland Co., Va.**

LIST OF PREMIUMS

OFFERED FOR

CLUBS

OF SUBSCRIBERS TO

THE AMERICAN FARMER for 1875.

Subscriptions can be sent either at the regular rate of $1.50 each, or at the club rate of $1 each.

For regulations concerning postage see below.

The table shows the number of names required at each rate to secure the articles offered

ARTICLES.	Value of Premium.	No. Subscribers at $1.50	No. Subscribers at $1.00
No.			
1. A collection of Flower or Garden Seeds, or an assortment of Plants and Vines of same value	$5 00	10	20
2. A $10 collection of Seeds, or of Plants and Vines	10 00	20	40
3. A $20 assortment of Seeds, or Plants and Trees, *your own selection*, from any of our advertisers	20 00	40	80
4. Howe Sewing Machine, with Cover and Attachments complete	70 00	80	175
5. Grover and Baker Sewing Machine, with Cover and Attachments complete	70 00	80	175
6. Silver-Plated Tea Set	25 00	40	80
7. Silver-Plated Revolv'g Butter Cooler	10 00	20	40
8. Silver-Plated Breakfast Castor	8 00	15	30
9. Silver-Plated Ice Pitcher	15 00	30	60
10. Silver-Plated Cake Basket	12 00	25	50
11. Silver-Plated Fruit Dish	10 00	20	40
12. Set of Silver-Plated Teaspoons	6 00	12	25
13. Set of Silver-Plated Tablespoons	11 00	20	50
14. Set of Silver-Plated Table Forks	11 00	20	50
15. Silver-Plated Pie Knife	4 00	8	16
16. Child's Silver-Plated Cup	3 00	6	12
17. Solid Silver Fruit Knife	3 00	6	12
18. Silver-Plated Cream Ladle	1 50	4	8
19. Set of Dessert Knives, Ivory Handles	6 00	12	25
20. Superior quality Carving Knife, Fork and Steel	6 00	12	25
21. Gold Pen and Silver Case	3 00	6	12
23. American Gold Hunting-Case Watch	60 00	100	225
23. American Silver Hunt'g-Case Watch	35 00	60	130
24. Webster's Unabridged Pictorial Dictionary	12 00	20	50
25. Webster's National Dictionary	5 00	10	25
26. Dexter Single-Barrel Breech Loader	22 50	40	75
27. Dexter Double-Barrel Breech Loader	50 00	75	160
28. Set of Light Buggy Harness	30 00	60	100
29. Gentleman's Fine Saddle	20 00	40	75
30. A pure breed Cotswold, Southdown or Shropshire down Ram	40 00	80	120
31. A thoroughbred Jersey, Ayrshire or Devon Bull Calf	75 00	120	200
32. A thoroughbred Shorthorn Bull Calf	100 00	150	250
33. A pair of pure bred Essex or Berkshire Pigs	30 00	60	100
34. A pair of pure Chester Whits Pigs	25 00	50	80
35. Fairbanks' Portable Platform Scales	23 00	40	70
36. Fairbanks' Union or Family Scales	14 00	25	50
37. Fairbanks' Counter Scales	10 00	20	40
38. Fairbanks' Trip Scales	5 50	10	20
39. Set Mathematical Drawing Instruments	4 00	8	16
40. One year's subscription to the American Farmer	1 50		10

☞ Subscribers need not all be at one post-office, nor is it necessary for the names to be all sent at once.

☞ Send the exact money with each list of names, and state in each letter that you are working for a premium.

☞ All new subscribers whose names are received, either separately or included in club lists, before December 31st, will be furnished the last three numbers of this year FREE.

☞ This offer of premiums holds good till April 1st, 1875, but any premium will be sent upon demand, as soon as the proper number of names is received, with the money, to entitle the sender to the premium designated, but no name will count unless the money for it is paid by or before the date the premium is claimed. There is no competition. Every one gets what he has worked for, and may make his own selection.

☞ Both old and new subscribers count in these lists.

☞ Specimen numbers, blanks, posters, &c., furnished on application.

☞ REMIT ALWAYS, when possible, by registered letter, post-office order, or draft.

☞ We want agents everywhere to extend the circulation of *The American Farmer*. An examination of the above premium list will show it is extremely liberal in its terms, and that the articles offered will give a wide choice, and are as good as the money. We will, however, be willing to pay a *cash commission* to parties who have facilities for making up clubs, and should be glad to hear from such as would prefer to be compensated in that way for their time and trouble.

POSTAGE.—The postage on the *Farmer* having to be prepaid here, each subscriber, whether single or in clubs, will be expected to remit 10 cents, for the payment of the same, with his subscription money. To present some inducement, however, to the prompt forwarding of new subscriptions and the renewal of old ones, we will not exact this payment on any subscriptions for 1875 *received by us before the* 1st day of January, 1875. That is, on all subscriptions for the new volume, coming in before the end of the current year, we will ourselves pay the postage.

☞ Address all letters plainly, to

SAML. SANDS & SON,

Publishers of THE AMERICAN FARMER,

9 North St., Baltimore, Md.

FOR SALE!

A FINE

FRUIT & TRUCK FARM.

The owner, desiring to return to his profession and the City, offers for sale that most valuable and highly improved FARM, lying in the county of NANSEMOND, at the head of Nansemond River, containing in sundry tracts **600 ACRES.**

It is 6 miles from one Railroad, and 7 from the Village of SUFFOLK; a daily Steamer to Norfolk, within 4 miles of the farm, and transportation by sailing vessels land at a wharf on the farm.

The home place, containing **76 ACRES,** is almost entirely in fruit trees of select and profitable market varieties. Of the 1,200 Pear trees about one-half are Standard Bartlett, 7 years old, just in bearing. Three orchards of Apples for the early market, all in bearing. One acre in Concord Grapes; a small Peach orchard of Troth and other select kinds, to the number of three hundred trees.

The whole farm is well enclosed, well drained, and the soil is admirably adapted to

FRUIT GROWING, TRUCKING,

and a very large portion of the lands grow Clover, Timothy and Orchard Grass with profit. There is now about 30 acres in Clover and the Grasses; 150 acres in Corn, Cotton and forage crops. Peanuts succeed well, and the immediate contiguity to water transportation renders the Melon, Potatoe and other heavy crops of trucks very profitable. There are

THREE SMALL DWELLINGS,

with out-buildings on different parts of the farm, now occupied by white tenants who have cultivated the lands for several years.

Natural fertilizers, muck and marl in any quantity, convenient to each field.

The buildings on the home farm including a handsome **Country Store,** cost over **$12,000.**

PRICE ONLY $25 PER ACRE.

TERMS easy—$5,000 cash, and the balance may remain on mortgage for five or more years, interest payable semi-annually. If immediate sale is effected, possession can be had on expiration of the present annual contracts for rent.

Dr. G. W. BRIGGS,

Jan-3t] **Address Box No. 11, SUFFOLK, VA.**

FLOWER SEEDS.

VEGETABLE SEEDS.

Spooner's Prize Flower Seeds,

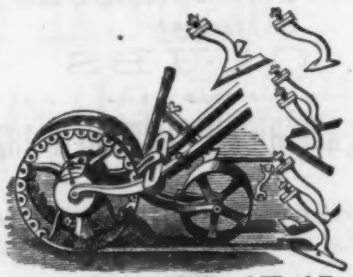
SPOONER'S BOSTON MARKET

VEGETABLE SEEDS.

Descriptive Priced Catalogue with over 150 illustrations, mailed free to applicant.

W. H. SPOONER,

Ja-3m Boston, Mass.



Planet Jr. Combined Drill and Wheel Hoe.

The Planet Junior Seed Drills

AND WHEEL HOES—FOUR STYLES.

These excellent tools are of the newest and most improved construction, combining all the good points of the original "Planets" with new and valuable features, and they are simple, artistic, compact and strong, *working well in all soils.* They sow perfectly all Garden and small nursery seeds; the Combined Machine holds one quart, and becomes a Wheel Hoe by removing one bolt. It has *two* pairs of interchangeable *tempered steel* hoes, one for delicate work close to the plants, leaving the ground level; the other for throwing heavy furrows to or from the row. It also has a sub-soiler and shovel plow for deep stirring, and for opening drills for Potatoes, Corn, Beans, &c. No vegetable garden, however small, should be without one. *Send for full descriptive Circulars.*

Prices—Delivered, *packed, at depots in Philadelphia.* Complete directions for use accompany each machine.

Planet Junior Combined,	- - -	$15.00
" " No. 2,	- - - - -	12.00
" " Double Wheel Hoe,	- -	10.00
" No. 3,	- - - - - -	16.75
Hoe Steels, *by mail,* each	- - - -	.25
Plow " "	- - - - - -	.40

MANUFACTURED ONLY BY **S. L. ALLEN & CO.**

Office and Sample Rooms—119 S. Fourth St., PHILADELPHIA.

NONPAREIL MILLS.

For grinding Corn and Cob, Corn-Meal, Drugs, Bones, etc. 10 sizes. For Hand or Power. Also, **French Cone-Burr Mills,** and **Cotton-Seed Hullers.** Illus'ted pamphlet free. Address, SCHUMACHER, SHEPARD & MILLER, 181 E. Front Street, Cincinnati, O. [jan-3t]

SAVE by sending to Oldest Tea House in America **TWO DOLLARS** for **3 POUNDS** of **BEST TEA.** Kind preferred mailed free to any address. Greatest inducements for Agents. **CANTON TEA CO.** 148 CHAMBERS ST. New York. j3t

A NEW GOOSEBERRY,

THE EARLY KENT.

We now offer plants of this for the first time. We claim that it is enormously productive, never mildews, and is of a good marketable size, fully ten days before the Houghton. Has been thoroughly tested by several of our best fruit growers. We refer to R. S. Emory, Esq., and E. M. Wilkens, Esq., of this place, both of whom have tried it.

PRICE 50 cents each. $4.00 per dozen. $30.00 per 100. We will mail 3 strong plants for One Dollar. Send 25 cents for our New Catalogue, and get the value of the money in Flower Seeds thrown in.

W. F. MASSEY & CO.

(Late MASSEY & HUDSON,)

dec-tf **Chestertown, Kent County, Md.**

CHESAPEAKE CHEMICAL WORKS.

SALT CAKE. (Sulph Soda.)
KAINITE. (Sulph. Potash.)

OIL VITRIOL

NITRATE SODA.
CHLORCALIUM. (Muriate Potash.)

MANUFACTURERS AND MANIPULATORS OF PHOSPHATES ON ORDERS AND FORMULAS FURNISHED BY OUR FRIENDS.

We offer to the Trade the following Goods, all of which are absolutely Free from Adulteration:

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

DISSOLVED SOUTH AMERICAN BONE ASH,

DISSOLVED SOUTH CAROLINA PHOSPHATE.

SLINGLUFF & CO.

OFFICE,--155 W. Fayette St.
WORKS--Foot of Leadenhall St. [ja-y] BALTIMORE.

WALTER HAMMOND'S

AMMONIATED

SUPER PHOSPHATE OF LIME,

MANUFACTURED BY

WALTER HAMMOND,

Late Manufacturer and Gen'l Agt. for the Sale of the Original Coe's Super Phosphate of Lime,)

No. 64 S. Sharp street, near Pratt,

BALTIMORE, Dec. 1st, 1874.

The undersigned respectfully informs his customers and the trade that he will in the future manufacture Super Phosphate of Lime under his own name as above. Respectfully soliciting a continuance of your patronage I remain,

Yours, respectfully,

WALTER HAMMOND.

jan-3m

THE BLOOD AND BONE FERTILIZER

Is manufactured entirely from the Blood and Bones of the animals slaughtered at the immense Abattoirs, near Jersey City, N. J. This district is close to the largest market gardens in the vicinity of New York. These gardens are owned by men whose knowledge and experience in the matter of fertilizers are equal to any in the country, and all, without exception, testify to its great superiority over every other fertilizer tried. This unanimous approval is undoubtedly from the fact that the article manufactured is pure blood and bone—nothing more. That it will be to the interest of the Company to make it continuously so, there is no doubt. They are located in the midst of hundreds of men who, if the article is purely made, will be profitable buyers, while if adulteration was attempted in the hands of such "experts," it would at once be detected. With the belief that the BLOOD AND BONE FERTILIZER is solely composed of these articles, and that it will continue to be manufactured, we have undertaken its agency.

Below is the testimony of the leading market Gardeners in the Bergen district of Jersey City, most of whom are located within four miles of our store, 35 Cortlandt Street, New York, and would be happy more fully to inform any one in detail of their experience with it.

GREENVILLE, N. J., July 15, 1873.

BERGEN FERTILIZING CO.:

Gentlemen—I have tried the "Blood and Bone" quite extensively this season on nearly every crop grown in my market garden, and find it in every case superior, as it is cheaper than Peruvian Guano.

ALEXANDER CAMPBELL.

BERGEN DISTRICT, JERSEY CITY, N. J., July 20, 1873.

BERGEN FERTILIZING CO.:

Gentlemen—Your "Blood and Bone Fertilizer," which I purchased from you in April for my spring crop of Cabbage and Lettuce, has done wonders, far exceeding anything I have tried as concentrated manure.

J. V. R. VREELAND.

LAFAYETTE, N. J., July 25, 1873.

BERGEN FERTILIZING CO.:

Gentlemen—I planted in spring Wakefield Cabbage, dressed with equal weight of Peruvian Guano and "Blood and Bone"—the guano costing $85, the "Blood and Bone" $65 per ton—using at the rate of about half a ton of each. The crop from your fertilizer is equally early, and of greater weight than that from the guano. You may count on me as a more extensive buyer next year.

JAMES W. BLOY.

COMMUNIPAW, N. J., July 8, 1873.

BERGEN FERTILIZING CO.:

I have much pleasure in giving my testimony in favor of your fertilizer. I have tried it extensively this summer, directly testing it against Peruvian Guano, to which I have proved it to be much superior.

JAMES McDOUGALL.

GREENVILLE, N. J., July 5, 1873.

Gentlemen—Of all the "Guanos" I have ever used, what you call "Blood and Bone Fertilizer" I found to be the best. I had a prejudice against even the name of fertilizer, we have been so much cheated, but it is all you claim for it.

WM. BOYD.

COMMUNIPAW AVE., JERSEY CITY, N. J., July 15, 1873.

BERGEN FERTILIZING CO.:

I used two and a half tons of Blood and Bone on my Cabbage, and it did all that was said for it. I believe it will also show on Celery planted on the same ground. It is more lasting in its effects than Peruvian Guano. I shall use it extensively next season.

DAVID WILLIAMS.

COMMUNIPAW AVE., LAFAYETTE, N. J., July 20, 1873.

BERGEN FERTILIZING CO.:

Gentlemen—If you continue to make the article of Blood and Bone in the same manner as you have done this season, you will not only benefit the community, but you will make your fortune, for merit will find its reward in an avalanche of trade in your house. I have been an extensive market gardener for sixteen years, have tried nearly every article of fertilizer offered in the market, but nothing has given me such entire satisfaction as the Blood and Bone. It has proved more valuable than Peruvian Guano, weight for weight; and from the deep green of the foliage of Lettuce, Cabbage, &c., grown on the land dressed with your fertilizer, I am certain that it will tell even to better advantage on our fall crops of celery, &c., than on the spring crop, thus showing its *lasting* qualities, a desideratum always in guano and most of the superphosphates.

ROBERT SMITH.

LAFAYETTE, JERSEY CITY, N. J., July 8, 1873.

I have used Bergen Fertilizing Co.'s Blood and Bone Fertilizer, this year, and am satisfied that it is a superior article.

WM. W. EDWARDS.

LITTLE FALLS, N. J., July 12, 1873.

I used your Blood and Bone Fertilizer this year on a general crop of garden stuff, and had remarkable results. Many of my neighbors have inquired about it, and I take pleasure in referring them to you.

JOHN SMITH.

In addition to the above testimony, I may state that I have given this fertilizer a thorough test, both on my vegetable and flower crops, and have found it everything to be desired. I have also used it together with many of my neighbors on our lawns, and during the hot and dry months of summer wherever it was used the grass was of the richest green, and of luxuriant growth.

PETER HENDERSON.

BERGEN DISTRICT, JERSEY CITY, N. J., August 15, 1872.

The following gentlemen have also given their testimony to its favor, and to whom we are permitted to refer: J. N. PIDCOCK, White House, N. J.; GEN. JAS. F. HALL, Garrisons, N. Y.; DANIEL PIERSON, Metuchen, N. J.; P. VOORHES, White House, N. J.; H. K. RAMSEY, North Branch Depot, N. J.; P. TUNISON, North Branch, N. J.

PRICE:	100 lbs. to 500 lbs.	85 per 100 lbs.	Delivered in New York.
	500 " to 1,000 "	4 " 100 "	
	2,000 " or 1 ton.	65 " ton.	

PETER HENDERSON & CO., Seedsmen and Market Gardeners,

35 CORTLANDT ST., NEW YORK.

BONE DUST & BONE MEAL.

"The Standard in America."

Ammonia..... 5 Bone Phosphate of Lime..... 54

$45 Per Ton, in Bags.

MARYLAND SUPER-PHOSPHATE

And Tobacco Sustain.

750 lbs. Peruvian Guano. 1,100 lbs. Bone Dust. 150 lbs. Potash.

$50 Per Ton, in Bags.

DISSOLVED OR VITRIOLIZED BONE,

$48 Per Ton.

No. 1 PERUVIAN GUANO, OIL VITRIOL (warranted full strength), MURIATE POTASH, SULPHATE OF SODA, NITRATE OF SODA, SULPHATE OF AMMONIA,
And other Chemicals for making Super-Phosphates and Fertilizers, at Wholesale Prices.

JOSHUA HORNER, Jr.
54 S. Gay St., Cor. Chew and Stirling Sts., and 178 Forrest St.

HULL, MATHEWS & CO.

Produce Commission Merchants

FOR SALE OF

Butter, Eggs and Produce Generally

And Dealers in FLOUR, GRAIN and FEED.

AGENTS FOR

Thompson & Edwards' Fertilizers,

je-1y 100 S. CHARLES ST., BALTIMORE, MD.

Keystone Portable Forges.

FAN BLAST, LARGE OR SMALL. FOR HAND OR POWER.

EVERY FARMER SHOULD HAVE ONE, and save money and time by doing HIS OWN REPAIRING, &c.

Send for Descriptive Catalogue and Price List to

REUTER & MALLORY,

ap-1y 14 S. Charles Street, Baltimore.

OUR
Illustrated Catalogues
FOR 1875 OF
EVERYTHING
FOR THE
GARDEN!
Seeds! Plants!
Implements, Fertilizers, etc.
Numbering 175 pages and containing five *beautiful colored plates*, mailed on receipt of 50 cents.
Catalogue, without plates, free to all.
Peter Henderson & Co.,
35 Cortlandt St.,
NEW YORK.

dec-3t

IMPORTANT.

TRUSSES, SHOULDER-BRACES, ELASTIC STOCKINGS, SUSPENSORIES, SYRINGES, INHALERS, &c. HYDROMETERS, THERMOMETERS, MICROSCOPES, STEREOSCOPES, MAGNIFYING GLASSES, &c., &c.
No. 135 W. Fayette St., (above Park St.)
BALTIMORE, MD.
d-1y E. V. DAILY.

My annual catalogue of Vegetable and Flower Seed for 1875, will be ready by January 1st for all who apply. Customers of last season need not write for it. In it will be found several valuable varieties of new vegetables introduced for the first time this season, having made new vegetables a specialty for many years. Growing over *one hundred and fifty varieties* on my several farms, I would particularly invite the patronage of market gardeners and all others who are especially desirous to have their seed pure and fresh, and *of the very best strain*. All seed sent out from my establishment are covered by three warrants as given in my catalogue.
jan-3t JAMES J. H. GREGORY, Marblehead, Mass.

Published Quarterly.—JANUARY NUMBER just issued, and contains over 100 PAGES, 500 ENGRAVINGS, descriptions of more than 500 of our best **Flowers and Vegetables**, with Directions for Culture, COLORED PLATE, etc.—The most useful and elegant work of the kind in the world.—Only 25 cents for the year.—Published in English and German. Address,
JAMES VICK, Rochester, N. Y.

NOAH WALKER & CO.
THE
Celebrated Clothiers
OF BALTIMORE, MD.
Announce the introduction of a plan of ordering
CLOTHING AND UNDERWEAR BY LETTER,
To which they call your special attention. They will send on application their improved and accurate RULES FOR SELF-MEASUREMENT, and a full line of samples from their immense stock of
Cloths, Cassimeres, Coatings, Shirtings, &c., &c.
A large and well-assorted stock of READY-MADE CLOTHING always on hand, together with a full line of FURNISHING GOODS.
NOAH WALKER & CO.
Manufacturers and Dealers in Men's and Boy's Clothing and Furnishing Goods, either Ready-Made or Made to Order.
d-1y 163 and 167 W. BALTIMORE STREET, Baltimore, Md.

DRY PERUVIAN GUANO.

500 Tons Dry Peruvian Guano, part of the cargoes of ships South America and Heroine, imported in 1870.

☞ **THIS IS THE ONLY DRY GUANAPE GUANO IN THE CITY.**

For sale from Peruvian Agents' Warehouse.

J. J. TURNER & CO.

No. 42 Pratt Street, BALTIMORE.

BONE FLOUR AND BONE DUST.

ANALYSIS.

AMMONIA	4.37
BONE PHOSPHATE OF LIME	44.56

GROUND BY OURSELVES & WARRANTED PURE.

Superior to any offered in this market. Packed in good, strong Bags.

PRICE $43 PER TON.

J. J. TURNER & CO.

No. 42 Pratt Street, BALTIMORE.

JOHN D. HAMMOND. HENRY A. ANTHONY.

JOHN D. HAMMOND & CO.

Saddle, Harness, Trunk and Collar Manufacturers,

WHOLESALE AND RETAIL,

No. 361 W. Baltimore Street, opposite "Eutaw House,".

sep—1y BALTIMORE.

LIME, HAIR, BRICKS, CEMENT AND PLASTERS.

WARREN'S

Lime, Cement and Plaster Depot.

CONSTANTLY ON HAND

Building Lime in Barrels, or Packed in Hogheads for Shipment, or Delivered in Bulk to Buildings, Wholesale and Retail.

☞ Rosendale Cement, Calcined and Land Plasters at Lowest Prices. ☜

No. 18 EAST FALLS AVENUE,

Bricks at Brick-Yard Prices. oct-1y **Baltimore, Md.**

THOS. NORRIS & SON,

MANUFACTURERS AND DEALERS IN

Agricultural Implements,

Field and Garden Seeds, Fertilizers, &c.

Would call special attention to the following first-class Machines, &c.:

WESTLINGHOUSE THRESHERS AND CLEANERS.

AULTMAN & TAYLOR'S THRESHERS AND CLEANERS.

LEVER AND RAILWAY HORSE POWERS—most approved.

VAN WICKLE WHEAT FAN—Price $37.

AMERICAN CIDER MILL AND PRESS—the best—$40

OUR NEW ACME PLOUGH.

Bickford & Hoffman Grain Drills,

Plows, Harrows, Cultivators, Straw Cutters, Corn Shellers, and all kinds of Farming Tools. Fresh Field and Garden Seeds, Pure Ground Bone and other Fertilizers.

PETER SCHUTTLER'S FARM & FREIGHT WAGONS

We call particular attention to these wagons, which are of very superior make, and which we offer exceedingly low for cash.

CUCUMBER PUMPS,

WITH PORCELAIN-LINED IRON CYLINDERS.

We are prepared to furnish, wholesale and retail, the best and cheapest Cucumber Pumps in the country, to suit all purposes, from the small cistern to the deepest well.
Send for Circular and Price List.

FOR HARVEST, 1875.

W. A. WOOD'S WORLD-RENOWNED

SELF-RAKE REAPER,

WITH AND WITHOUT MOWING ATTACHMENT.

A. E. WOOD'S MOWING MACHINES,

Universally acknowledged as good as, if not superior to, any others in use. The above Machines have taken more FIRST PREMIUMS in this country and in Europe than any other Reaping and Mowing Machines extant. Send for Descriptive Circulars. For sale by

THOMAS NORRIS & SON, Agents,
141 Pratt street, Baltimore, Md.

may1-1y.

WM. STUART SYMINGTON. THOS. A. SYMINGTON.

PATAPSCO CHEMICAL WORKS.

SYMINGTON BROS. & CO.

MANUFACTURERS OF

OIL VITRIOL

AND OTHER CHEMICALS.

Works on Locust Point, } Baltimore.
Office, 44 South Street, }

nov-1y

"THE CARROLLTON."

This new and beautiful Hotel, located upon the site of "Old Fountain Hotel," extended by an elegant front on Baltimore street, is convenient alike to the business man and the tourist.

It is the only Hotel in Baltimore of the new style, embracing

ELEVATORS, SUITS OF ROOMS, with BATHS,

And all conveniences; perfect ventilation and light throughout, and was planned and built as a Hotel, new from its foundation.

Its elegant and convenient Office and Exchange Room, with Telegraph, &c., will at all times be at the disposal of the merchants and citizens of the city.

The location of the Ladies' Entrance on Baltimore street, and the beautiful Drawing Rooms connected therewith, will give to families more than the usual degree of quietude and seclusion.

The undersigned refers to his career of over thirty years as a Hotel Manager in New York and Baltimore, and feels confident, that with a new and modern house, he can give entire satisfaction to his guests.

To accommodate Merchants and others who visit Baltimore, the proprietor will charge $3 per day for the rooms on fourth and fifth floors, making the difference on account of the elevation. Ordinary transient rates for lower floors, $4 per day.

R. B. COLEMAN, Proprietor.

BALTIMORE, MD. [nov-1y]

MORO PHILLIPS'

GENUINE IMPROVED

SUPER-PHOSPHATE OF LIME.

STANDARD GUARANTEED.

Reduced in price, and improved in quality by the addition of Potash. This article is already too well known to require any comments upon its Agricultural value. Thirteen years' experience has fully demonstrated to the agricultural community its lasting qualities on all crops, and the introduction of Potash gives it additional value.
PRICE $50 PER TON, 2,000 LBS. Discount to Dealers.

PURE PHUINE.

SUPERIOR TO PERUVIAN GUANO. Patented April 29, 1860. Manufactured by MORO PHILLIPS.
PRICE $50 PER TON, 2,000 LBS. Discount to Dealers. For sale at Manufacturer's Depots:
110 S. DELAWARE AV., Philadelphia, Pa.
93 SOUTH STREET, Baltimore, Md.
And by Dealers in general throughout the country. Pamphlets mailed free on application.
ap-1y **MORO PHILLIPS**, Sole Proprietor and Manufacturer.

MONUMENT IRON WORKS.

DENMEAD & SON,

Cor. North and Monument Streets, Baltimore, Md.

MANUFACTURERS OF STATIONARY AND PORTABLE

Steam Engines and Boilers

OF ALL SIZES.

DAVID'S PATENT PULVERIZING MILLS, for Guanos, Bones, Ores, Clays; also, Flour Making.
☞ SEND FOR CIRCULAR. ap-1y

BALTIMORE

RETORT AND FIRE BRICK WORKS.

GEORGE C. HICKS & CO.

MANUFACTURERS OF

CLAY RETORTS, TILES, FIRE BRICK,

VITRIFIED STEAM-PRESSED

Drain and Sewer Pipe, Stove Lining, &c.

ap-1y *Manufactory, Locust Point, Balt. Office, 4 S. Holliday St.*

Established] **A. E. WARNER,** **[1811.**

Manufacturer of

Silver Ware & Rich Jewelry,

English, Swiss and American WATCHES of the Best Makers;
Importer and Dealer in Diamonds, Fine Watches,
Silver-Plated Ware, Table Cutlery, &c.

WEDDING PRESENTS,

Premiums for Agricultural Fairs, Fine Bronzes, Opera Glasses and Shell Jewelry, &c.

je-1y No. 135 W. Baltimore Street, near Calvert, Baltimore.

THE CHEMICAL COMPANY OF CANTON,

WM. DAVISON, Pres't. B. N. BAKER, Sec'y.

MANUFACTURERS OF

Oil Vitriol

AND OTHER CHEMICALS.

Office, 104 Lombard St., up stairs. Works on Clinton St., Canton.

BALTIMORE, MD.

ALL ORDERS PROMPTLY ATTENDED TO nov-1y

JOHN J. HAND,

MANUFACTURER OF

Carriages, Buggies and Jagger Wagons,

OF ALL STYLES,

151 North High Street,

Between Gay and Hillen Streets,

BALTIMORE, MD.

☞ New and Second-hand Carriages constantly on hand. All orders promptly executed at Reasonable Rates. Repairs done on Shortest Notice. nov-1y J. J. HAND.

HUGH SISSON,

STEAM MARBLE WORKS,

Cor. North and Monument Streets,

Importer and Dealer in Foreign and Domestic

MARBLE & STATUARY.

The Trade supplied with MARBLE IN BLOCKS, or cut to size, at Lowest Rates.

REPOSITORY AND SALES ROOMS,

No. 140 W. BALTIMORE STREET,

Between Calvert and North (Rinehart Buildings), where may be seen a Choice Collection of

STATUARY, MANTELS,
FURNITURE SLABS,
COUNTERS, TILE,
MONUMENTS, TOMBS,
GRAVESTONES,
CURB and POSTS

for Cemetery Lots, &c.

my-6t

TREES AND PLANTS.

Rosebank Nurseries.

We invite the attention of Planters and Amateur Cultivators to our complete stock of the following:

APPLES, Standard and Dwarf. CHERRIES, Standard and Dwarf.
PEACHES, PLUMS and GRAPE VINES, together with other SMALL FRUITS of popular kinds. ORNAMENTAL TREES, EVERGREENS and SHRUBS, with ROSES in great variety. A large stock of choice GERANIUMS, VERBENAS, and other bedding-out plants.

75 to 100,000 two and three-year old OSAGE ORANGE HEDGE PLANTS.

☞ **ORDERS BY MAIL PROMPTLY ATTENDED TO.** *Catalogues forwarded on Application.* ☜

W. D. BRACKENRIDGE.

LINTON & CO.

Manufacturers of

MACHINE-MADE POTS.

Pots for Propagating Cotton Plants for Early Planting, Pots for forcing Jute, also Turpentine Pots.

These Pots are made with the most approved machinery from tempered clay. The quantities made by us per day are from 3,000 to 6,000.

We have always on hand a large assortment of FLOWER POTS. Having improved facilities for the manufacture of FLOWER POTS, and giving the same our entire attention, we are enabled to supply the market with an article which, for neatness, durability and cheapness we defy competition.

These Pots can be safely shipped to any part of the United States in lots to suit; also, URNS, BIRD BOXES and HANGING BASKETS.

LINTON & CO.

apr-1yr *Corner Lexington and Pine Sts., Baltimore, Md.*

HARRINGTON & MILLS,

Nos. 204 & 206 BALTIMORE STREET, BALTIMORE, MD.

Manufacturers and Importers of

Fine Furniture, Looking Glasses, Gilt Frames, Curtains and Draperies.

We call particular notice to our large stock of **CANE FURNITURE,** embracing Chairs, Tables, Lounges, &c., &c.; being particularly suitable for country residences, and adapted from its lightness and coolness, for Southern latitudes.

A large stock of Fine Furniture constantly on hand and made to order. may—1y.

MARYLAND BRITANNIA AND GOLD AND SILVER PLATE WORKS.

ESTABLISHED 1850.

WM. HOLMES,

SALES ROOM.....No. 3 NORTH CHARLES STREET.

Office and Factory, Nos. 50 and 52 Holliday Street,

BALTIMORE, MD.

☞ **Repairing and Replating done so as to look equal to new ware.** may—1y.

THE WATT PLOW.

VICTORIOUS ON EVERY FIELD.

Those Who Use It Will Have no Other.

AWARDED FIRST PREMIUM AT EVERY FAIR ATTENDED IN 1874.

VIRGINIA STATE FAIR AT RICHMOND—First premium on three and four-horse sizes, right and left hand. At the plowing match, ALL PREMIUMS AWARDED white plowmen were taken with Watt Plows of one, two, three and four-horse sizes, and colored plowmen with one, two and three-horse sizes, BEING SEVEN OUT OF EIGHT PREMIUMS.

North Carolina State Fair at Raleigh. South Carolina State Fair at Columbia. Georgia State Fair at Atlanta. Orangeburg, S. C. Danville, Va. Weldon, N. C. Charlotte, N. C. Point Pleasant, W. Va.

This, with its great reputation before it, has won new laurels this year which must convince every farmer of its superiority. No choking where bright and smooth. No labor to plowmen. One-third less DRAUGHT to the team. Thorough burial of the weeds, grass, &c. Great STRENGTH, durability and economy, and complete pulverization of the soil. Warranted as represented, or to be returned. Send for Catalogue and Price-List.

WATT & CALL,

dec-1y **SOLE MANUFACTURERS, 1452 Franklin Street, Richmond, Va.**

HUBBALL & DUNNETT,

HYDRAULIC ENGINEERS,

6 & 8 N. Liberty St., and 171 N. Eutaw St., Baltimore.

Public and Private Buildings Heated by Steam or Hot Water; Plumbing of every description, with Lead, Galvanized or Plain Iron Pipe; hot and cold water; Hydraulic Machines, various patterns, simple in construction and durable, viz: Steam Pumps, positive action; Hot Water Pumps, Acid Pumps, Double Action Pumps, Brass and Iron; Water-Wheel Pumps, Water Rams, Wind Mill Pumps, Horse-Power Pumps, Steamboat Pumps for extinguishing fire; Springfield Gas Machines for lighting Country Houses, Hotels, Factories and Railroad Stations, &c., &c.

Having experienced workmen in our employ, any work entrusted to our care will be promptly and satisfactorily done.

We have the privilege to refer to the following gentlemen as to our capability to do the above work: Hon. Reverdy Johnson, Hon. Henry G. Davis, Hon. Wm. Pinkney Whyte, Francis T. King, Esq., J. H. B. Latrobe, Esq., Samuel G. Wyman, Esq., William G. Harrison, Esq., William W. Taylor, Esq., John Gregg, Esq., Wm. F. Burns, Esq., J. W. Allnutt, Esq., Messrs. Baldwin & Price, Architects. dec-1y

JOHN C. DURBOROW,

GENERAL AGENT FOR

THE KIRBY MOWERS AND REAPERS,

55

Light street,

BALTIMORE,

MARYLAND.

55

Light street,

BALTIMORE,

MARYLAND.

☞ The KIRBY COMBINED REAPER AND MOWER with BALTIMORE SELF-RAKE received FIRST PREMIUM at Carroll County, Frederick County and Montgomery County, Md., FAIRS, October, 1873. The BURDICK INDEPENDENT REAPER with BALTIMORE SELF-RAKE received FIRST PREMIUM and DIPLOMA at Maryland State Fair, 1873. The KIRBY TWO-WHEEL MOWER was awarded the FIRST PREMIUM at Carroll County, Frederick County and Montgomery County, Md., Fairs; and also, at Leesburg, Va., Fair, 1873.

SIMPLE, STRONG AND DUBABLE.

POSITIVELY NO SIDE DRAUGHT, NO WEIGHT ON THE HORSE'S NECK. Extras and repairs constantly on hand. Send for Circular and Price-List. Also, DEALER IN ALL KINDS OF

Agricultural Implements, Cucumber Pumps, Seeds, Fertilizers, &c.

JOHN C. DURBOROW,

dec-1y **55 Light Street, near Pratt, Baltimore, Md.**

R. SINCLAIR & CO.,

MANUFACTURERS OF

Agricultural Implements

AND

MACHINERY.

Also, Growers and Importers of

☞ Garden and Field Seeds, &c.

DEALERS IN FRUIT TREES AND PLANTS.

We would call the special attention of our friends and customers to the following first-class Machinery and Implements, which we guarantee to be equal to any article of the kind made in this country, being all of our own manufacture. We name, in part, such Machinery and Implements as are required by the Farmer and Planter for the Spring and Harvest Season, viz:

SINCLAIR'S PATENT MASTICATORS, of which we make four sizes, viz: Hand, Hand and Power, and Steam and Water Powers. These machines are the best in use for the purpose of cutting up Corn Stalks and Sugar Cane.

SINCLAIR'S PATENT SCREW PROPELLORS, HAY, STRAW AND FODDER CUTTERS, of which we make six (6) sizes, viz: Two light sizes, for hand power; two medium sizes, which can be run by hand or power, and two sizes for horse power. All of the above-named Cutters are our own patents and manufacture, and as such we can recommend them. Our 6-inch Small Hand Cutter is considered to be the best cheap Cutter made in this country. Price, $16.00.

READING'S PATENT HORSE-POWER CORN SHELLER, with and without Cleaning Attachment. The Attachment is Sinclair & Co.'s Improvement.

VIRGINIA HAND AND POWER SHELLER, with and without Cleaner. The Cleaner to this Sheller is also Sinclair & Co.'s Improvement.

DOUBLE AND SINGLE IRON SPOUT DOUBLE-GEARED HAND SHELLERS, WOOD-SPOUT HAND SHELLERS, several kinds.

SINCLAIR & CO.'S SOUTHERN IRON-BRACE GRAIN CRADLES, with Four, Five and Six Fingers. Considered the best Cradle made in this country.

SCULLY'S CELEBRATED CIDER AND WINE MILL AND PRESS, two sizes. They speak for themselves; in fact, they have no equals.

"ANDERSON'S" AGRICULTURAL STEAMER, for Cooking Food for Stock. The best in use.

PELTON PATTERN OF HORSE POWERS, several sizes.

"CARDWELL'S" PATENT THRASHER AND CLEANER, two sizes.

THRASHERS AND STRAW CARRIERS, several sizes.

BUCKEYE REAPERS AND MOWERS, all the different sizes and styles.

ADVANCE MOWERS, HORSE WHEEL-RAKES, HAY TEDDERS, HORSE HAY-FORKS, SULKY CULTIVATORS, PLOWS, HARROWS and CULTIVATORS, and all kinds of

FARMING AND HORTICULTURAL TOOLS.

Address, R. SINCLAIR & CO.

may-1y. *62 Light street, Baltimore.*

OFFICE OF THE PEOPLE'S GAS COMPANY, No. 102 W. Fayette Street.

GAS LIME,

For agricultural purposes, for sale at the Works of the Company, foot of Scott Street, at Two Cents per Bushel. no-3m

MANUFACTURERS OF PURE

No. 1 GROUND PLASTER

C. S. & E. B. FREY,

No. 18 HARFORD AVENUE, BALTIMORE, MD.

And dealers in Corn Husks. Always buying and pay the HIGHEST CASH PRICE

FOR CORN HUSKS. feb 12t

SMITH & CURLETT,

Steam Soap & Candle Works,

PERFUMED CHEMICAL OLIVE SOAPS,

ADAMANTINE and TALLOW CANDLES,

Cor. Holliday and Pleasant Sts.

feb-1y BALTIMORE, MD.

LEWIS TUDOR & CO.

Commission Merchants,

For the sale of all kinds of COUNTRY PRODUCE. FRUITS AND VEGETABLES a specialty in their season. We do a STRICTLY COMMISSION BUSINESS, therefore DO NOT SPECULATE. Consignments solicited. Prompt returns made. We thank our many friends for their liberal patronage and hope for a continuance and increase of the same.

No. 44 Light Street, Baltimore, Md. a-1y

FOR SALE.—A complete set of the first fifteen volumes of the *American Farmer*, beginning with 1819. Address

EDITORS OF THE AMERICAN FARMER,
Baltimore, Md.

VIRGINIA LANDS.

UPPER JAMES REAL ESTATE AGENCY,

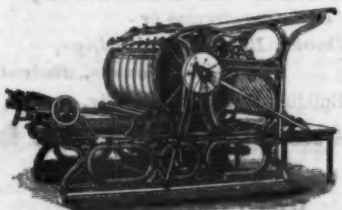
BY WILLIAM HOLMAN,

CARTERSVILLE, Va.

Who offers for sale upwards of 12,000 acres of land, lying in one of the most desirable regions of Eastern Virginia.

Catalogues sent on application. my-tf

JOB PRINTING.



All kinds of BOOK and JOB PRINTING executed promptly, neatly and accurately. Estimates furnished.
AMERICAN FARMER OFFICE.

JAS. LEFFEL'S

IMPROVED DOUBLE

Turbine Water Wheel.

POOLE & HUNT, Baltimore,

MANUFACTURERS FOR THE SOUTH AND SOUTHWEST.

Nearly 7,000 now in use, working under heads varying from 2 to 240 feet! 24 sizes, from 5¼ to 96 inches.

The most powerful Wheel in the market,
And most economical in use of water.
Large ILLUSTRATED pamphlet sent post free.

MANUFACTURERS, ALSO, OF

Portable and Stationary Steam Engines and Boilers, Babcock & Wilcox Patent Tubulous Boiler, Ebaugh's Crusher for Minerals, Saw and Grist Mills, Flouring Mill Machinery, Machinery for White Lead Works and Oil Mills, Shafting, Pulleys and Hangers.

SEND FOR CIRCULARS. O-1y

THE EMERALD COOK,

The largest and best Cooking Stove in the market. Also manufacture and sell the VIRGINIA, VIRGIN QUEEN, WELCOME, SEA BIRD, and ADVANCE Cook Stoves, and a beautiful SIX-HOLE RANGE, with Warming Closet—No. 1 Baker; and a large variety of HEATING STOVES. Manufacturer and proprietor of the BEST FIRE-PLACE STOVES in the world—the "FAME," "REGULATOR" and "CHAMPION." Satisfaction guaranteed.

JAS. ARMSTRONG,

60 Light St., Baltimore, Md.

FOUNDRY, Port Deposite, Md. oc1-6t

CANFIELD, BRO. & CO.

Watches, Diamonds and Rich Jewelry,

Corner Baltimore and Charles Streets, Baltimore, Md.

SILVER AND PLATED WARE,

American, English & Swiss Watches, Clocks & Bronzes

Fans, Opera Glasses and Fancy Goods.

THE LARGEST HOUSE IN THE CITY.
PREMIUMS FOR AGRICULTURAL FAIRS FURNISHED.
BADGES AND MEDALS FOR COLLEGES AND SCHOOLS A SPECIALTY.
WATCHES CAREFULLY REPAIRED. jy-12m

V. O. EARECKSON,

LUMBER DEALER,

West Falls Avenue, first Yard South of Pratt St. Bridge.

Building Lumber, Shingles, Laths, Palings,

FENCING, &c.

LIME, BRICKS, SASH, DOORS AND MILL WORK

may-1y AT THE LOWEST PRICES.

Maryland Poudrette,

☞ RICH IN PHOSPHATES, AMMONIA AND OTHER ALKALINE SALTS, as per analysis, containing in one ton of 2,000 pounds, say

34 pounds Ammonia,
39 pounds Potash,
38 pounds Phosphoric Acid,

Also, LIME, MAGNESIA, and other valuable constituents in smaller quantities. For sale, packed in barrels or bags, at $15 per ton, 2,000 pounds, by

HEALTH DEPARTMENT,

sep-6m **28 Holliday street, Baltimore.**

JOHN W. WILSON & SON,

Lumber Dealers,

AND MANUFACTURERS OF

Frames, Sash, Doors, Blinds, Mouldings, Brackets, Newels, Balusters,

And Building Materials Generally.

Office, Wareroom and Lumber Yard, Fremont St., near S. Eutaw,

Factory, cor. S. Eutaw and Cross Sts.

BALTIMORE, MD.

BUY DIRECT OF THE MANUFACTURERS AND SAVE 25 PER CENT. sep-1y

MARBLEIZED SLATE MANTELS,

SUPERIOR IN FINISH

AND DURABILITY

To MARBLE and at much less Price.

JOHN DUER & SONS,

Dealers in HARDWARE,

24 S. CHARLES STREET.

Send for Catalogue. no-1y

M. PERINE & SONS,

Manufacturers of

Flower Pots, Stone and Earthenware,

POTTERIES AND SALES-ROOM,

711 and 713 West Baltimore Street,

mar-1y BALTIMORE, MD.

PURE BRED

Calves, Sheep, Premium Berkshire and Chester White Pigs Bred and For Sale by

FRANCIS MORRIS,

Office, 18 N. 13th St., Philadelphia, Penna.

THE

Farmer's Fruit and Vegetable Drier,

patented by A. W. SWEENY, Lake Roland, Md. Simple in construction, cheap and efficient. State, county and farm rights for sale. Circulars free. Agents wanted.

WILLIAM HARRIS,

GUNS & PISTOLS,

Just received, a large assortment of BREECH and MUZZLE-LOADING GUNS, SPORTSMEN'S GOODS, &c.

No. 116 PRATT TREET,

(One door from South st.) **BALTIMORE, MD.**

[sep-6t]

STEAM MARBLE WORKS.

BEVAN & SONS,

No. 70 HOWARD ST., NEAR SARATOGA,

Would call attention to their fine collection of MONUMENTS, TABLETS, &c.; GRAVESTONES FOR CEMETERIES; also a varied assortment of MARBLE MANTLES, and are prepared to execute all kinds of Marble Work for building. mar-1y

---

$25 Per Day guaranteed using our **Well Auger** and DRILLS in good territory. Highest testimonials from the Governors of Ark., Iowa and Dakota; Catalogue free. Address W. W. GILES, St. Louis, Mo.

SCALES.—Every farmer should have a pair of scales. We can furnish them to weigh a quarter of an ounce up to the largest hay wagon, on very liberal terms, at the *American Farmer* office. jan-tf

---

GROVER & BAKER'S

"NEW" No. 9 Lock Stitch and Elastic Stitch

SEWING MACHINES,

THE VERY LATEST AND BEST.

SALESROOMS,

No. 17 North Charles Street, Baltimore.

IMPORTANT IMPROVEMENT IN FERTILIZERS.

GERMAN POTASH SALTS,

Imported directly from the mines, high and low tests.

Orders of Manufacturers promptly executed in deliveries to suit.

STOCK ON HAND FOR SALE VERY CHEAP.

Muriate of Potash, Kainit, &c.

Also, for sale GROUND BONE, guaranteed strictly pure, testing 4.112 Ammonia, 47 010 Bone Phosphate of Lime, GUANO, &c. PLEASE CALL FOR CIRCULARS.

TATE, MÜLLER & CO.

oct-1y *52 S. Gay St., Baltimore, Md.*

BURNS & SLOAN,

No. 132 Light Street Wharf,

BALTIMORE, MD.

BUILDING LUMBER AND SHINGLES,

ASH, OAK AND WALNUT.

Lime, Bricks, Sash and Mill Work.

oct-12t

JESSE P. GORE,

[Successor to M. J. DOWLING,]

Carriage Manufacturer,

Nos. 153 & 155 N. High Street,

BALTIMORE.

All kinds of Fashionable Carriages built to order at the Shortest Notice.

☞ **Repairing in all the Branches executed promptly in Good Style and at Moderate Prices.** oct-1y

---

German Potash Salts,

Imported directly from the mines, high and low tests, in original packages, at lowest market rates, IN LOTS TO SUIT.

KAINIT AND MURIATE OF POTASH.

Also, for sale GROUND BONE, BONE MEAL, guaranteed strictly pure, GUANO, &c.

F. C. GRANGE & CO.

Successors to WM. GRANGE, original introducer and importer.

Office, 103 W. LOMBARD ST., bet. Calvert and Light, BALTIMORE, MD.

SEND FOR DESCRIPTIVE CIRCULAR. oct-1y

Maryland Agricultural College:

Located on the Washington Branch of the B. & O. R. R., nine miles from Washington, and twenty-eight from Baltimore.

The next session will commence on the 15th of September, 1874, and end the last week in June, 1875. It is divided into two terms of twenty weeks each.

In addition to Agriculture and the sciences pertaining thereto, a full Collegiate Course is taught. Students who do not desire to take the whole course are allowed within reasonable limits to select such studies as their parents or guardians may designate.

There is no charge for Tuition.

Charge for board, including fuel, gas, washing, &c., $100 per term, and a Matriculation fee of $5.

THE FOLLOWING IS THE BOARD OF TRUSTEES.

Hon. A. Bowie Davis, Pres.	His Excel'y J. B. Groome, Governor of Md.,
Hon. Jas. T. Earle,	Hon. John Lee Carroll, Pres't of the Senate.
E. W. Whitman, Esq.,	Hon. J. T. Hines, Speaker of House of Delegates,
Col. Edward Lloyd,	Prof. M. A. Newell, Pres. State School Com'rs.
J. Howard McHenry, Esq.,	
Allen Dodge, Esq.,	
Hon. John F. Lee,	

For further information, apply to

GEN. SAMUEL JONES, PRESIDENT.

P. O. Address, College Station, Prince George's Co., Md.

je-tf

SPANISH MERINO SHEEP

For Maryland and Virginia.

Numerous persons in these two States are wanting from 1 to 10 or 20 Sheep each, and want to know the cost, delivered in Baltimore. I hereby offer a part of my Flock of all ages, and both sexes, at $10, $10, $20, $25 and $30 each; and where they have to be boxed, $3 extra on each Sheep. On receipt of a Draft for the amount, with statement of the priced Animals wanted, a day will be appointed when they will be delivered in Baltimore, for $2, each, which must also be included in the Draft; there will then be the City Expenses, which must there be paid, pro rata, and each party be there to receive his Sheep, otherwise the Express Charges from there must be added in the Draft, on those shipped in the boxes from there, as they will be placed in the boxes here. Otherwise it would be well to select a man, and send him here with the funds and directions.

JOHN S. GOE,

P. O. Box 15. Brownsville, Fayette Co., Pa.

A. G. MOTT,

40 Ensor St., near Bel-Air Market, Balt.

Manufacturer and Dealer in

Agricultural Implements, Seeds, Fertilizers, &c.

If you want a superb harvester, buy our ÆTNA. At Pimlico, for three successive years, the ÆTNA won the first premium. Price of Mower $115—combined Reaper, with geared reel and dropper attachment, $165. The Wiley ahead of all competitors. We make all sizes of this admirable Plow, right and left hand and side hill. Also, the Minor and Horton, Empire, Woodcock, Plug and other popular Plows. Castings by piece or ton. Corn Planters, with and without guano attachments, $28 and $31 each. The best pattern of cucumber-wood Pumps, for shallow and deep wells. Several second-hand Buckeye Mowers for sale. Mowing machines and other implements repaired with despatch. A call is solicited.

ap-1y

PENNSYLVANIA ROUTE,

FORMED BY THE

NORTHERN CENTRAL

AND

PENNSYLVANIA RAILROADS

ON THE

West, Northwest and Southwest,

To PITTSBURG, CINCINNATI,

LOUISVILLE, INDIANAPOLIS,

CHICAGO, ST. LOUIS,

AND ALL OTHER

PROMINENT POINTS.

BALTIMORE & POTOMAC

AND

Alexandria & Fredericksburg Railways

ON THE SOUTH TO

Washington, Richmond,

AND ALL POINTS IN THE

Atlantic and Gulf States.

THE ONLY

ALL RAIL LINE

WITH NO

OMNIBUS TRANSFER AT WASHINGTON.

NORTHERN CENTRAL

AND

PHILADELPHIA and ERIE RAILWAYS

ON THE NORTH TO

HARRISBURG, WILLIAMSPORT, ELMIRA, WATKINS GLEN, ROCHESTER, ERIE, BUFFALO, NIAGARA FALLS.

☞ Baggage called for and checked at Hotels and private residences through to destination. Sleeping and Parlor Car accommodations secured.

Through tickets sold and information given at company's office,

N. E. Corner Baltimore and Calvert Streets,

At Depot N. C. Railway,

UNION DEPOT, CHARLES STREET STATION,

And PENNSYLVANIA AVENUE STATION.

ED. S. YOUNG, Gen'l Passenger Ag't. B. & P. and N. C. R. R'ds.

D. M. BOYD, Jr., Gen'l Passenger Ag't, Pennsylvania R. R.

SAMUEL T. DEFORD, Jr., Southeastern Agent

feb

ESTABLISHED 1839.

TO FARMERS, PLANTERS and GARDENERS

Pure Ground Bone

MANUFACTURED BY

JOHN BULLOCK & SON,

Factory: Washington Road, Baltimore, Md.

Store: No. 61 S. Gay Street, Baltimore, Md.

P. O. Box 636.

PACKED IN BARRELS OR BAGS, $45 PER TON.

For the past thirty years we have been engaged in the manufacture of PURE GROUND BONE, our crude stock being gathered daily from the Butchers here, with whom we have yearly contracts. Having recently added additional and improved machinery, we are now prepared to fill all orders in our line with promptness and despatch. Would respectfully call attention to the annexed certificate:

BALTIMORE, March 1st, 1873

Messrs. JOHN BULLOCK & SON, Baltimore, Md.

Gents—The following is the result of an analysis of your Ground Bone:

	PER CENT.
Moisture determined at 212° Fahrenheit,	5.44
Organic Matter,	39.16
Containing Nitrogen, 4.47 per cent., equal to Ammonia, 5.42 per cent.	
Inorganic Matter,	55.40
Containing Phosphoric Acid, 22.15 per cent., equal to Bone Phos. of Lime, 48.35 per cent.	
Alumina, Oxide of Iron, and Carbonate and Fluoride of Lime not determined.	
Insoluble Residue, 3.61 per cent.	
	100.00

I am pleased to state that this is one of the richest and most available forms of Phosphate of Lime and Ammonia that can be found for agricultural purposes. The per centage of valuable ingredients named is in excess of the generality of fertilizers now being offered for sale. Respectfully, &c.,

P. B. WILSON,
Analytical and Consulting Chemist.

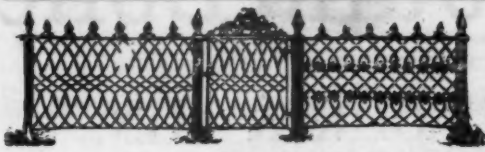
oct–1y

GEORGE PAGE & CO.,
Machinists and Founders.

Portable and Stationary Steam Engines and
Boilers, Patent Portable CIRCULAR SAW MILLS,
Portable Grist Mills, Horse Powers, Leffel's
Turbine Water Wheel, &c.

No. 5 N. SCHROEDER STREET, near W. Baltimore street,

feb-1y BALTIMORE, MD.



WIRE RAILING
AND
ORNAMENTAL WIRE WORKS.

DUFUR & CO.

No. 36 North Howard Street, Baltimore, Md.
MANUFACTURE
Wire Railing for Cemeteries, Balconies, &c.
SIEVES, FENDERS, CAGES, SAND and COAL SCREENS, WOVEN WIRE, &c.
feb-1y Also, Iron Bedsteads, Chairs, Settees, &c., &c.

TO WHEAT GROWERS.
"EXCELSIOR,"

1874

1874

The most concentrated, universal and durable fertilizer ever offered to the farmer—combining all the stimulating qualities of Peruvian Guano, and the ever durable fertilizing properties of Bones. In fine dry powder, prepared expressly for drilling, and can be applied in any quantity, however small, per acre. It is the opinion of many close calculating Farmers, after SIXTEEN YEARS' experience in testing it side by side with other popular fertilizers, that an application of 100 pounds of Excelsior is equal to from 200 to 300 pounds of any other fertilizer or guano, and therefore fully 100 per cent. cheaper. UNIFORMITY OF QUALITY GUARANTEED BY THE MANUFACTURERS.

☞ *Farmers should see that every Bag is branded as above, with the ANALYSIS and OUR NAME in RED LETTERS. All others are counterfeits.*

PRICE $55 PER TON.

sep-tf J. J. TURNER & CO., 42 Pratt St., Baltimore, Md.

WHEAT SEEDING.

1874

1874

ANALYSIS.

Ammonia	3.30
Soluble Phosphate of Lime	23.91
Bone Phosphate of Lime	3.15

Composed of the most concentrated materials, it is richer in Ammonia and Soluble Phosphates than any other Fertilizer sold, except our "Excelsior," its only competitor, and is made with the same care and supervision; uniform quality guaranteed; in excellent order for drilling. Packed in bags.

PRICE $45 PER TON.

J. J. TURNER & CO.

sep-] **No. 42 Pratt Street, BALTIMORE.**

Z. JEANNERET,

Wholesale and Retail Dealer in

HUMAN HAIR GOODS!

62 LEXINGTON ST., bet. Charles and Liberty,

BALTIMORE.

A large and varied stock of HUMAN HAIR GOODS always on hand, such as Braids, Curls, Wigs, &c., &c. Also, Combs, Brushes, *FACE and COMPLEXION POWDERS*, French Perfumery and Pomades, &c.

☞ Particular Attention to Country Orders. Reasonable Discount to Dealers.

OLD HAIR BOUGHT or EXCHANGED,

aug-1y **At the Lowest Cash Prices.**

Ryder's American Fruit-Drier.

This Machine combines cheapne s in first cost, durability, simplicity, and practical utility in the most perfect manner. It is made in sizes especially adapted for

Farmers and Family Use.

It has been greatly improved since last season, and, it is claimed, will in a single year

SAVE ITS COST IN CANS AND SUGAR,

And that fruits prepared in it are superior in **Flavor, Color and General Appearance.** It will dry and preserve equally well all kinds of Fruit, Vegetables, and animal substances. By its use, also, inferior fruits can be partially saved and turned to account.

The DRIER is now made in different sizes, with heater and all complete, varying in price from $50 to $200, and having a drying capacity of from 5 to 50 bushels per day.

☞ For further information, and for Illustrated Circular and Price-List, address

SAML. SANDS & SON, Publishers American Farmer,

jy-tf **9 NORTH STREET, BALTIMORE.**

PENNSYLVANIA Agricultural Works, YORK, Pa.

A. B. FARQUHAR,

MANAGER AND PROPRIETOR.

The Pennsylvania Agricultural Works is one of the most extensive establishments of its kind in the United States. It is furnished with improved Machinery, Foundry, Forging Rooms, Planing and Sawing Mills, Lumber Yard, &c., complete within itself. It is situated among the great Iron, Coal and Lumber fields, which form the basis of all manufacturing; and I would respectfully call the attention of the public to these advantages, confident of meriting an extended patronage.

The following are among the specialties:

AGRICULTURAL STEELS, PLOWS, CULTIVATORS, HORSE RAKES, PLOW HANDLES,

Threshing Machines, Horse Powers, &c.

HORSE POWERS.

The Horse-Power is one of the most important implements, and probably the most difficult to keep in order; too much care, therefore, cannot be used in selecting the very best.

I have long made the manufacture of Horse-Powers a specialty, and can safely recommend my improved Iron-Geared Powers to be all that I claim for them.

FARQUHAR'S CLIMAX HORSE-POWER,

For Threshing, Ginning and General Farm Use,

ranks first; being the result of many years' labor, "practice with science," and the expenditure of thousands of dollars in experimenting.

It is remarkable for its light draft, simplicity, great strength and durability. It is fitted up with as much care as a piece of cotton machinery or steam engine, and will last as long. The rule, the "best is the cheapest," applies with special force to Horse Powers.

THE PELTON OR TRIPLE-GEARED IRON POWER.

This well-known power is noted for its strength, cheapness and general efficiency. Like the Climax, the gearing is all secured in an iron frame, and is uninjured by the weather. The pinions are made of chilled iron, and no pains are spared to make it a first-class, cheap power.

Improved Railway Horse-Powers, Threshers and Separators,

Have been a specialty with me for many years, and those who favor me with their orders may rely upon getting a machine which will run as light, waste less grain, and give more general satisfaction than any offered.

PLOW HANDLES.

Having improved Blanchard machinery for the manufacture of Plow Handles upon an extensive scale, I can supply first quality Handles, side bent to order for any pattern of plow.

☞ For further particulars, address

jy–1y **A. B. FARQUHAR, York, Pa.**

Fertilizers.

SOLUBLE SEA ISLAND GUANO,

Of Undoubted Excellence for Cotton and Tobacco.

Ammoniated Alkaline Phosphate.

The Patron's Manure—to Whom we Refer.

Bone and Meat Fertilizer.

This Article being combined with Potash, contains all the elements necessary for the growth of the plant and maturity of the fruits.

Lone Star Brand of Flour of Bones.

From our Extensive Factory at Fulton, Texas.

Ammoniacal Matter.

Manufactured of Uniform Quality.

POTASH SALTS,

Of our own im[illegible]

SULPHURIC ACID, DISSOLVED BONES, and all articles required for the making of a good manure, in store and for sale by

R. W. L. RASIN & CO.

S. W. Cor. South and Water Sts.,

BALTIMORE, MD.

dec-1y